The *Knowledge Quartet* and the pedagogy of subject English: Applicability, realisation, and implications

by

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Declaration of Originality

This thesis contains no material which has been accepted for a degree or diploma by the University or any other institution, except by way of background information and as duly acknowledged in the thesis, and to the best of my knowledge and belief it contains no material previously published or written by another person except where due acknowledgement is made in the text of the thesis, nor does the thesis contain any material that infringes copyright.

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Statement of Ethical Conduct

The research investigations conducted for this thesis abide by the ethical requirements of the University of Tasmania Human Research Ethics Committee. Ethics approval was gained through application H0013090.

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Publications

Hitherto, two publications have arisen from this research:

- Hay, I., Thomas, D. P., & Shorter, D. J. (2019, July). The Knowledge Quartet: A "fresh lens" in the analysis of teachers' classroom practice. *Proceedings of the Australian Teacher Education Association (ATEA) conference* (pp. 1-3). University of the Sunshine Coast, Sippy Downs, QLD.
- Shorter, D. J. (2019). Dealing with contingency. In A. Ashman (Ed.), *Education for inclusion and diversity* (6th ed.) (pp. 386-387). Melbourne, VIC: Pearson Australia.

Abstract

This thesis concerns the development and application of a theoretical framework called the *Knowledge Quartet – English* (KQ-E). The KQ-E is an elaborated version of the *Knowledge Quartet* (KQ), a conceptualisation of actualised pedagogical content knowledge (PCK) developed by Tim Rowland and colleagues vis-à-vis mathematics teaching. The KQ posits that PCK manifests across four dimensions: Foundation, Transformation, Connection and Contingency. Specific categories of PCK belonging to each dimension occur during most lessons. The KQ-E was, during its formulation and testing, used to illuminate the actualised PCK-for-subject-English demonstrated by four Australian (Tasmanian) teachers.

In Australia and elsewhere, teaching quality has become a central focus of multi-stakeholder debate about, and measures to improve, the educational outcomes of young people. This debate focuses, often, on subject English, that domain of school curricula charged, most explicitly, with developing students' literacy capabilities and, thence, their (a) access to various 'goods', including education, employment and social support systems; and (b) participation in domestic, civic and political decision-making. Teaching matters, and PCK, one of several domains of teacher knowledge posited by Lee Shulman some 30 years ago, is customarily regarded by educationalists as a key driver of pedagogical efficacy, crucial to improving students' learning outcomes. Thus, efforts to illuminate and cultivate teachers' PCK, particularly for subject English, are ever-timely.

Hitherto, PCK has been theorised, mainly, vis-à-vis mathematics teaching – demonstrated, for example, by the sizeable corpus of research involving the KQ. This project sought to address that concentration, guided by questions that concerned: (a) the extent to which the dimensions and categories of Rowland et al.'s framework apply to the pedagogy of subject English; (b) how those postulates might be conceptualised re the pedagogy of subject English; and (c) the potential value of KQ-E-mediated reflection-on-practice.

The research proceeded in two stages. A pilot study was conducted, wherein the 20-category KQ was tested vis-à-vis relevant, pre-existing data: namely, video-recordings of two subject English lessons conducted in a primary school in Auckland, New Zealand. This process of semi-grounded theory generated eight additional categories of actualised PCK that seemed characteristic of subject English teaching. They were added to the KQ to form a nascent KQ-E, the veracity of which was tested via the main study.

In/for the main study, four teachers (two primary, two secondary) of varying levels of experience were voluntarily recruited from Department of Education schools in and around Launceston, Tasmania. Each was observed/video-recorded delivering a sequence of three subject English lessons, and participated, also, in one-on-one post-lesson semi-structured interviews. The interviews were audio-recorded. Some of the data were then selected and prepared for analysis. Each of five lesson transcripts was coded vis-à-vis the KQ-E, a process supported by reference to the content of relevant interview transcripts.

Fifteen categories of the KQ applied to the data that were analysed. Of the five that did not, only two are, perhaps, genuinely immaterial to English teaching. All the additional categories generated via the pilot study applied. Thus, their credibility is supported. A social-constructivist/Vygotskian orientation to teaching-learning appears to characterise the pedagogy of subject English. Also, the teachers valued their students' individuality-subjectivity and, moreover, recognised that their students' life experiences and world-knowledge are drivers of reading/viewing comprehension. KQ-E-mediated reflection-on-practice may constitute a profitable means of developing PCK for subject English. The KQ-E supports the premise that teaching is competency-based.

Given the KQ-E was generated-substantiated via a delimited corpus of data, theoretical sampling is needed to confirm its credibility. Additionally, research that assesses the value of KQ-E-mediated reflection-on-practice would be worthwhile.

Acknowledgements

On submitting my thesis for examination, I find myself owing a debt of gratitude to many people. For helping me complete this research, I sincerely thank:

- my supervisors, Dr Damon Thomas and Professor Emeritus Ian Hay, whose energy, vision and expertise has been greatly appreciated – and which, I hope, is duly echoed in the pages herein;
- Associate Professor Rosemary Callingham, for inviting me to join the *Powerful Knowledge* project, and for lending counsel re Confirmation of Candidature;
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Dedication

In loving memory of my mother, Christine Jan Shorter, and for my children: Matilda, Hannah, Eve, Hattie and ‘Little Pip’ (who is due to arrive in late August).

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Chapter 1: Introduction

Introduction

In this chapter, the research project, which is formally and thoroughly documented across the four subsequent chapters of the thesis, is précised and contextualised. Immediately hereunder, a preamble describes the blend of circumstances that prompted the research. Thereafter, the backdrop to, and purpose of, the research is described before the *Knowledge Quartet* (KQ) (Rowland, Huckstep & Thwaites, 2005; Rowland, Turner, Thwaites & Huckstep, 2009), research questions and research approach are introduced. Then, the significance of the research is addressed before chapter overviews are presented.

Preamble

The genesis of the research documented herein lay in the fortuitous intersection of a number of professional interests and opportunities. A teacher of 20 years' experience, I have, for most of those 20 years, had the pleasure – and, needless to say, challenge! – of teaching subject English to high school students. As well, I have occupied the role of Subject Leader for English in two of the high schools at which I have worked, and currently occupy the role of Literacy Coach in a high school just north of Launceston, Tasmania. For 'me the professional', then, the pedagogy of subject English has always been, and remains, a fascinating 'problem'.

That fascination was piqued, especially, some five years into my teaching career, when a pair of academics who were visiting the school at which I worked happened to ask me something like: 'What special knowledge do teachers have that enables them to teach, David?' I realised, years later, they were perhaps rephrasing Shulman (1987): "[What knowledge] is uniquely the province of teachers, their own special form of understanding[?]" (p. 7). At the time, however, I struggled to proffer a cogent response. Nevertheless, I had, I

believed, a *sense* of something relevant: I 'knew' something, but lacked the words to convey it – lucidly, at least. Thereafter, I reflected, from time to time, on the academics' question, but never managed to enunciate for myself a satisfactory answer.

That changed during the first weeks of a two-year secondment to the Faculty of Education at the University of Tasmania (2012-2013). Tutoring into a foundational unit in the Faculty's Master of Teaching program, I was introduced to the work of Shulman (1986, 1987). Finally, I had, perhaps, an answer to the academics' question: Shulman's taxonomy of knowledge bases – and, particularly, his notion of *pedagogical content knowledge* (PCK) – seemed to capture, neatly, what I had 'known' for many years, but struggled to articulate. Moreover, the chance to earnestly cultivate my understanding of PCK presented itself about 18 months later, when, upon making enquiries into the possibility of undertaking a Doctor of Philosophy (Education) degree through the Faculty, I was told of, and joined, the *Powerful Knowledge* (Callingham, Chick, Beswick, & Hay, 2013) project.

Shortly before my secondment to the Faculty finished, then, my application to study for a PhD was accepted: research into PCK via *Powerful Knowledge* (Callingham et al., 2013) was about to commence, and my years of experience as an English teacher – and, moreover, my rejuvenated interest in PCK – meant I was suitably positioned to contribute to some of the aims of that project by researching PCK for subject English. That research is formally expressed herein, and is the outcome of the fortuitous coming together of those professional interests and opportunities described above. Hereunder, the backdrop to, and purpose of, my research is précised.

Background to the Research

Prompted by Shulman's (1986, 1987) formative work, teachers' knowledge-for-teaching has been, and remains, a topic of keen inquiry. In Australia, renewed interest in, and contributions to, that corpus of research have been motivated by:

a) staged implementation, since 2012, of a new, national curriculum, the *Australian Curriculum* (Australian Curriculum, Assessment and Reporting Authority [ACARA], n.d.[a]), which has prompted teachers to review and renew their subject matter knowledge (SMK) for some or all of the eight learning areas therein (e.g., Aubusson, 2011; Coleman, 2018; Doecke, McLean Davies & Sawyer, 2018; Goos, 2018);
b) introduction of professional knowledge standards for teachers, the *Australian Professional Standards for Teachers* (Australian Institute for Teaching and School Leadership [AITSL], 2011), which "articulate what teachers are expected to know and be able to do at four career stages: Graduate, Proficient, Highly Accomplished and Lead" (p. 2);
c) increased accountability of schools and teachers via:
    - the introduction, in 2008, of the *National Assessment Program – Literacy and Numeracy* (NAPLAN), the compulsory "annual national assessment [in reading, writing, language conventions (spelling, grammar and punctuation) and numeracy] for all students in Years 3, 5, 7, and 9" (ACARA, 2016b, para. 1); and
    - the launch, in 2010, of the *My School* website, which reports "data on a school's student profile, NAPLAN performance, funding levels and sources and other financial information" (ACARA, n.d.[b], para. 1);
d) the new *Alice Springs (Mparntwe) Education Declaration* (Education Services Australia, 2019), which "sets out…[a]…vision for a world class education system that encourages and supports every student to be the very best they can be" (p. 2); and

e) as précised shortly, debate regarding the quality and performance of Australia's school education system (e.g., Milligan, 2019; Thompson, Hillman, Schmid, Rodrigues & Fullarton, 2017).

The study documented herein joins the growing corpus of research exploring and informing aspects of Australian teachers' knowledge-for-teaching against the backdrop of this amalgam of national initiatives and concerns.

Hattie (2003) asserted that "teachers make a difference" (p. 1). Thus, oft-raised evidential concerns regarding the efficacy of Australia's school education system (e.g., Deloitte Access Economics [DAE], 2017; Jensen, Hunter, Sonnemann & Burns, 2012) turn, inevitably, to quality-of-teaching as being foremost among several key determinants of students' educational success. As Hanushek (2011) noted, "no other attribute of schools comes close to having as much influence on student achievement" (p. 467). Similarly, DAE acknowledged that "[t]he quality of *instructional approaches* of a teacher…are shown to be…more effective…in improving student outcomes" (p. 15). Hattie (2013), Coe, Aloisi, Higgins and Elliot Major (2014), Jensen (2014) and Burgess (2016) concurred. Thus, in Australia (and globally), "teaching quality has become the focus for much of the research in primary and secondary school education" (DAE, 2017, p. 13).

Pedagogically efficacious teachers have "cognitive schemata [that] are…elaborate, interconnected, and accessible" (Borko & Livingston, 1989, p. 473). That is, "teachers with higher levels of knowledge tend to have higher levels of [pedagogical] efficacy" (Fives & Alexander, 2004, p. 6). Many others (e.g., DAE, 2017; Hashweh, 1986; Hattie, 2011; Ma, 1999, 2010; Wineburg & Wilson, 1991) concurred. Thus, research concerning, or commentary on, Australian teachers' pedagogical efficacy recognises, typically, that *knowledge*, of some type(s), underpins practical competence. Jensen et al. (2012) did, squarely. Their summary of the performance of Australia's education system versus that of

some of its regional neighbours' proceeded to identify two of Shulman's (1986, 1987) seven domains of knowledge – namely, SMK and PCK – as chief amid several key drivers of student learning outcomes. Jensen et al. acknowledged that:

> The OECD Teaching and Learning Internal Survey (TALIS) identifies key aspects of teaching that have been shown to improve learning. They include:
>
> - Teachers' content [i.e., subject matter] knowledge.
> - Teachers' pedagogical knowledge…specific to their subject [i.e., PCK].
>
> (p. 15)

Others (e.g., Gess-Newsome, 2015; Grossman & Shulman, 1994; Park & Oliver, 2008; van Driel, Verloop & de Vos, 1998) have professed the import of well-developed SMK and PCK to/in quality teaching. Also, given their practical significance, SMK and PCK have been recognised by AITSL (2011): within Teacher Professional Standard 2, *Know the content and how to teach it*, Focus Area 2.1 – *Content and teaching strategies of the teaching area* – addresses, squarely, SMK and PCK (as per Table 1).

Table 1

AITSL's Focus Area 2.1: Content and teaching strategies of the teaching area

Graduate	Proficient	Highly Accomplished	Lead
Demonstrate knowledge and understanding of the concepts, substance and structure of the content and teaching strategies of the teaching area.	Apply knowledge of the content and teaching strategies of the teaching area to develop engaging teaching activities.	Support colleagues using current and comprehensive knowledge of content and teaching strategies to develop and implement engaging learning and teaching programs.	Lead initiatives within the school to evaluate and improve knowledge of content and teaching strategies and demonstrate exemplary teaching of subjects using effective, research-based learning and teaching programs.

AITSL (2011, p. 12)

This research concerns PCK, that corpus of teacher knowledge "which…goes beyond knowledge of subject matter per se to the dimension of subject matter knowledge *for*

teaching" (Shulman, 1986, p. 9); that is, "that special amalgam of content and pedagogy" (Shulman, 1987, p. 8). Specifically, it concerns *actualised* PCK for subject English – for, as Shulman (2015) enjoined, "[t]he idea of PCK needs to place much-needed emphasis on…action in teaching" (p. 10).

Shulman's (1986, 1987) construct provides a general conceptual 'coat-hanger' on which to locate and comprehend the study, while Rowland et al.'s (2005, 2009) typology of PCK – the KQ – provides a more specific conceptual grounding. McCombes (2020) noted that research "should have some connection with theory in the field [and] be integrated into existing knowledge about the topic" (para. 10). This research seeks to elucidate, exemplify and, perhaps, refine the KQ vis-à-vis the pedagogy of subject English.

Purpose of the Research

PCK has proved challenging to cogently theorise (Ruthven, 2011): as Loughran, Berry and Mulhall (2012) stated, PCK

> *is not a single entity that is the same for all teachers of a given subject area* [emphasis added]; it is a particular expertise with individual idiosyncrasies and important differences that are influenced by (at least) the teaching content, context, and experience. It may be the same (or similar) for some teachers and different for others. (p. 7)

Still, efforts to elucidate the construct's various elements continue, motivated by the practical value that such activity may yield: if the constituents of PCK can be clarified, teachers will have a scheme by which to ratiocinate and strengthen their practice (Hu, 2014). Hitherto, PCK has been theorised, mostly, vis-à-vis science teaching (e.g., Geddis, Onslow, Beynon, & Oesch, 1993; Gess-Newsome et al., 2019; Magnusson, Krajcik, & Borko, 1998; Loughran, Berry, & Mulhall, 2006, 2012); Park & Oliver, 2008; Smith & Neale, 1989) and,

particularly, mathematics teaching (e.g., Ball, Thames, & Phelps, 2008; Chick, 2007; Fennema & Franke, 1992; Hill et al., 2008; Hill, Schilling, & Ball, 2004; Maher, 2019; Marks, 1990; Rowland et al., 2005, 2009). This project sought to address that concentration by illuminating, in detail, actualised (i.e., *in vivo*) PCK for subject English. Specifically, it sought to propose a practice-based conceptualisation of PCK for subject English that educationalists (e.g., pre- and in-service teachers; teacher educators; facilitative experts; researchers) might use to cognise, parse, reflect on, and, perhaps, develop classroom teaching in/for that learning area. Elucidating PCK for mathematics and science teaching has proved helpful re improving instructional efficacy within those subjects: it seemed logical, therefore, to want to extend that same utile theorising into subject English, especially considering the backdrop against which this research is set.

A survey of scholarly literature relevant to the focus of inquiry revealed several schemata by which actualised PCK might be understood, identified, assessed and strengthened. Some, it happened, were too generic (e.g., Danielson, 2013; Pianta, LaParo & Hamre, 2008; van de Grift, 2007) and/or needed specific, and extensive, training to implement (e.g., Grossman et al., 2009; Hill et al., 2008); the *Knowledge Quartet* (KQ) (Rowland et al., 2005, 2009), however, seemed a serviceable architecture by which to illuminate, and mediate reflection on, actualised PCK – including, perhaps, for subject English.

The KQ reflects-captures actualised PCK across "four broad, superordinate categories, or [dimensions]…named (I) foundation, (II) transformation, (III) connection, and (IV) contingency" (Rowland et al., 2005, p. 110). Each dimension includes between four and seven of 20 specific 'categories of practice'. The KQ's conceptual integrity and, moreover, value as (a) a research tool and (b) medium of teacher professional self-development, has been established (e.g., Corcoran, 2007; Cosgrove, 2018; Flesvig, Rowland & Eriksen, 2017;

Petrou, 2009; Thwaites, Jared & Rowland, 2011; Turner, 2012; Weston, 2018). Given, therefore, its (a) imaginable applicability to (subject) English teaching, (b) appropriate granularity and (c) apparent 'user-friendliness', the KQ seemed a suitable basis on which to pursue exploration-illumination of actualised PCK for subject English.

The nature of the knowledge on which a curriculum subject is based manifests pedagogically: "[I]nstruction [is] domain specific…the structure and syntax of the subject affect instructional processes and necessitate specific teacher expertise" (Baumert et al., 2010, p. 165). Others (e.g., Chick, 2007; Grossman, 1990, 1991; Grossman, Schoenfeld & Lee, 2005; Mulhall, Berry & Loughran, 2003; Westhoff & Pollman, 2008; You, 2011) concurred. Mathematics is based on, and concerned with, a body of knowledge that is: (a) objectively knowable; (b) generated and tested according to principles and processes of rational inquiry; and (c) systematised, organised and exact (Dossey, 1992; Richland, Stigler & Holyoak, 2012). Much of subject English, by contrast, is based on, and concerned with, a body of knowledge that is: (a) more subjectively knowable; (b) periodically redefined by "a new set of speakers" (Bernstein, 2000, p. 162) or 'knowers' (Maton, 2009, 2010); and (c) approximate, fluid and, even, contested (Grossman, 1990; Misson, 2012). Following Baumert et al., then, PCK for subject English should – somewhat, at least – be distinct from PCK for Mathematics.

Thus, having been developed and "extensively 'road tested'" (Rowland, 2013, p. 21) vis-à-vis *mathematics* teaching, the scope of the KQ's applicability to the pedagogy of subject English was a central focus of this project. Indeed, Rowland's questions underpinned the research: "[C]an a framework for knowledge-in-teaching developed in one subject discipline be legitimately adopted in another?" (p. 40) and, moreover, "[W]hat might the conceptualisations of the dimensions of the KQ…look like in another discipline?" (pp. 40-41). The project sought, therefore, to investigate the extent to which the content of the KQ

applies to the pedagogy of subject English and, in so doing, to reconceptualise/reconfigure that framework, if necessary, to reflect-capture pedagogical activity distinctive to (subject) English teaching. Also, it sought to construct a detailed picture of the pedagogy of subject English demonstrated by the teacher-participants and, as well, to indicate the potential of a Knowledge Quartet for subject English to mediate professional development in, and for, that subject. It pursued those aims by addressing the following, specific research questions.

Research Questions

Three research questions (RQs) – and, under Research Question 1, two subsidiary questions – delimited the scope, and guided the undertaking, of the research:

- Research Question 1 (RQ1): *To what extent is the content of the KQ applicable to the pedagogy of subject English?* To address RQ1, two subsidiary questions were developed:
    - *What categories of the KQ are applicable to the pedagogy of subject English?*
    - *Are there components, or facets, of the pedagogy of subject English that cannot be captured by categories of the KQ; and if so, what revisions can be made to the framework to accommodate those components/facets?*
- Research Question 2 (RQ2): *What do the categories of the KQ, and any new categories, 'look like' in the context of the pedagogy of subject English? What do they capture?*
- Research Question 3 (RQ3): *What potential might a KQ for subject English have, or demonstrate, to enhance the pedagogy of teachers of subject English?*

The RQs are reiterated at key junctures throughout the thesis, thereby signposting and cohering its content. Hereunder, the systematic process by which the RQs were addressed is précised.

Research Approach

The research utilised a form of case study methodology to address the research questions – namely, *instrumental multiple case* methodology:

- *instrumental*, because "[i]t was used to accomplish something other than understanding a particular situation" (Baxter & Jack, 2008, p. 549): namely, to "[exemplify and] refine a theory" (Punch, 2009, p. 119); and
- *multiple case*, because multiple cases (lessons) of 'the pedagogy of subject English' were examined to achieve that purpose.

Within this methodology, semi-grounded theory – understood as being situated within the constructivist paradigm, which "recognises the…subjective human creation of meaning" (Miller & Crabtree, 1999, p. 10) – was the strategy of inquiry by which the KQ-E was formulated. The research was completed as follows.

Ethical desiderata were identified and fulfilled; thereafter, the research proceeded in two stages. In Stage 1, the pilot study, analytical procedures (including data-presentation formats) were developed/refined, and concepts generated, that were, then, applied and tested in Stage 2, the main study. The grounded theory employed across both stages reflected the form advanced by Strauss and Corbin (1990, 1994, 1998), wherein "if existing (grounded) theories seem appropriate to the area of investigation, then these may be elaborated and modified as incoming data are meticulously played against them" (Strauss & Corbin, 1994, p. 273). Moreover, it paralleled the "grounded theory methodology…[that] shape[d] the way [Rowland and his colleagues] looked at [the data]" (Rowland, 2008, p. 284) and generated

the categories of the KQ. That strategy, Rowland explained, involved comprehension (i.e., interpretation, theorisation) of demonstrated pedagogy vis-à-vis relevant knowledge thereof: "[W]e did not come to our analysis of the lessons *tabula rasa*" (p. 284). Still, their interpretations/theorisations, although mediated by pre-existing knowledge, were, always, 'grounded in' observed phenomena; thus, Rowland asserted that he and his colleagues used a "grounded approach to the data for the purpose of generating theory" (p. 281). The researcher used the same approach to generate the KQ-E.

The pilot study – which utilised data gathered from two early childhood classrooms in a primary school in Auckland, New Zealand – comprised a preliminary test of the applicability of *existing* grounded theory – that is, the KQ (Rowland et al., 2005, 2009) – to (subject) English teaching. The findings of the pilot were, then, tested via the main study, for which qualitative data were collected via two procedures:

1) teacher observations: each of four teachers – Grace, Zahra, Christopher and Catherine – was observed/video-recorded delivering a sequence of three (subject) English lessons (giving, therefore, a total of 12 video-recordings); and
2) semi-structured interviews: immediately following each lesson, the teacher was, if practicable, interviewed (if impracticable, the interview was conducted later). Interviews were audio-recorded.

The data for the main study were collected from within four co-educational Department of Education (DoE) schools (two primary, two secondary) located in, or within 50 kilometres of, the city of Launceston (population ≈ 86,000), northern Tasmania, Australia. In Tasmania, the education system is comprised of two sectors: independent/private and government/public. Schools in the independent/private sector are managed by boards and (a) sponsored by Independent Schools Tasmania or (b) superintended by Catholic Education Tasmania. Many have religious affiliations. Schools and colleges in the government/public

sector are secular and managed by the Department of Education (DoE). Across both sectors, schooling comprises three stages: (1) primary school; (2) secondary (or high) school; and (3) senior secondary school (or college). Table 2 provides a breakdown of the stages of schooling in Tasmania.

Table 2

Stages of schooling in Tasmania

Type of school(ing)	**Primary**								**Secondary (or high)**				**Senior secondary (or college)**	
Year-levels that comprise this type of schooling	K	P	1	2	3	4	5	6	7	8	9	10	11	12
Age students turn in this year of schooling	5	6	7	8	9	10	11	12	13	14	15	16	17	18

Contextual details of each of the four schools/classrooms from which data were collected for the main study are presented in Chapter 3.

From the 12 video-recordings, five were selected and transcribed for analysis:

- Grace's lesson of 21 July, with Year 2 students;
- Zahra's lesson of 26 October, with Year 4/5 students;
- Christopher's lessons of 27 July and 3 August, with Year 8 students; and
- Catherine's lesson of 21 September, with Year 10 students.

These lessons represented a balance of teaching across the years of schooling (i.e., from early years to late secondary) and instructional foci (i.e., reading/comprehension, writing). Other matters that informed their selection are presented in Chapter 3.

The lesson transcripts were coded vis-à-vis the elaborated KQ – called the *Knowledge Quartet – English* (KQ-E) – that had emerged during the pilot study, a process supported by the content of several relevant interview transcripts. "The mixing of the data from the two methods is often to integrate the information and compare one data source with the other" (Creswell, 2009, p. 214). Analysis occasioned findings expressible quantitatively and qualitatively. In relation to RQ1, frequency counts indicate which, and how often, categories of the KQ-E applied to the corpus of pedagogy-of-subject-English demonstrated by the four teachers. In relation to RQ2, well-justified interpretive synopses captured "what [those categories]…look like in [subject English]" (Rowland, 2013, pp. 40-41). In relation to RQ3, detailed explanations illustrate the potential value of KQ-E-mediated pedagogical reasoning vis-à-vis the pedagogy-of-subject-English demonstrated by each of the four teachers whose lessons were analysed. Chapter 3 comprehensively, and cogently, documents the process by which the research was completed.

Significance of the Research

The significance of the research has, hereinbefore, been intimated. Hereunder, it is explicated.

First, the research is significant because it elaborates extant theory, generating and proposing a supplementary conceptualisation of PCK for subject English that might usefully inform the work of a range of educationalists, including pre- and in-service teachers, teacher educators, facilitative experts, and researchers. Hitherto, the only such related theory was Grossman et al.'s (2009) *Protocol for Language Arts Teaching Observation* (PLATO). Yet while PLATO is described as "a…protocol designed to capture features of [*subject*] *English* [emphasis added]…instruction" (Centre to Support Excellence in Teaching [CSET], 2013, para. 1), it is, it seems, largely applicable to the pedagogy of *any* subject (e.g., Cohen, 2015; Kloser, 2014). That is, it presents a fairly *generic* conceptualisation of PCK. (Additionally,

its proper application requires specialised, and extensive, training.) Nevertheless, some constituents of PLATO were theoretically sensitising vis-à-vis the process of testing the applicability of the KQ to (subject) English teaching: aspects of PLATO informed, and confirmed the credibility of, the researcher's thinking and theorising. Importantly, however, the KQ-E is more fine-grained than PLATO. As well, the KQ-E is apt, it seems, to capturing the PCK involved in teaching any of the multiple content domains of subject English (e.g., reading, writing) *and* is agnostic re the various models thereof (e.g., *Skills*, *Cultural Heritage*, *Personal Growth*).

Second, the research is significant because the findings have the potential to usefully inform the teaching of subject English. Globally, teaching quality is often the focus of discussions about educational improvement. Indeed, concerns regarding the quality and performance of Australia's school education system have cited classroom teaching and, more specifically, well-developed PCK as key to improving students' learning outcomes (Jensen et al., 2012; Milligan, 2019). Others (e.g., Baumert & Kunter, 2013; Berry, Loughran & van Driel, 2008; Gess-Newsome, Taylor, Carlson, Gardner, Wilson & Stuhlsatz, 2019; Jones & Moreland, 2005; Turner-Bisset, 2001) concurred that robust PCK (a) underpins effective teaching and (b) is, hence, a crucial driver of student achievement. Thus, PCK is well-recognised as being among the *sine quibus non* of pedagogical efficacy – indeed, for Gess-Newsome (1999), it is "the *only* form of knowledge that impacts teaching practice" (p. 10) – and is thus deserving of research attention and efforts to cultivate it – especially, it seems, in the context of subject English.

Subject English "is central to the learning and development of all young Australians" (ACARA, 2016a, p. 4). Christie and Macken-Horarik (2007) stated that "so significant is subject English [that] success in it is now an important passport to many avenues of privileged life and education" (p. 156). Indeed, one of its core imperatives, they asserted, is

"the development of reading and literacy skills which help young people develop the knowledge and skills needed for education, training and the workplace" (p. 4). As such, the need to usefully conceptualise and develop PCK that underpins effective (subject) English instruction is vitally important.

The research is significant, therefore, because it generated/proposes an empirically-based conceptualisation of PCK for subject English that can, then, be utilised by pre- and in-service teachers, facilitative experts and teacher educators to 'heuristicise' the process of reflecting on, and refining, pedagogy. Quite simply, KQ-E-mediated reflection-on-practice may, in turn, improve practice – especially when 'done' pursuant to the principles and processes of good professional learning (e.g., Cosgrove, 2018; Edwards-Groves, Anstey & Bull, 2014; Jensen et al., 2012; Johnson, 1991; Turner & Rowland, 2008).

Finally, the research is significant because of the context in which it was conducted. Hitherto, the bulk of the corpus of research addressing (i.e., illuminating-conceptualising) PCK for subject English has been conducted in the United States (e.g., Grossman, 1990; Grossman et al., 2009; Grossman & Shulman, 1994; Hoffman, Sailors & Duffy, 2004; Taylor, Pearson, Peterson & Rodriguez, 2005). Some has been conducted in the United Kingdom (e.g., Twiselton, 2006). In Australia, however, research concerning teachers' knowledge-for-teaching-subject-English has focused, particularly, on their SMK, especially vis-à-vis the content of the Language strand of the *Australian Curriculum: English* (ACARA, 2016a; e.g., Derewianka, 2012; Harper & Rennie, 2009; Jones & Chen, 2012). As well, Christie and Macken-Horarik (2007, 2011) posited a hypothetical disciplinarity of subject English, invoking systemic functional linguistic (SFL) theory to bring "some 'generality and integrating property' (Bernstein, 2000, p. 162) [to the subject's variegated knowledge structure]" (Christie & Macken-Horarik, 2011, p. 175). Thus, the research presented herein

adds an Australian resonance to the growing corpus of knowledge concerning teachers' PCK for subject English.

Overview of Chapters

- In Chapter 1: Introduction, the research was prefaced. The chapter related, first, the circumstances that motivated the study before contextualising it vis-à-vis current discussions regarding teaching quality, including key drivers of pedagogical efficacy. Thereafter, the purpose of the study, and the research questions that circumscribed its undertaking, were presented before the process by which those questions were addressed was précised. Finally, the significance of the study was outlined.
- In Chapter 2: Literature Review, a review of a corpus of academic literature relevant to the focus of inquiry is presented, including on:
  - Shulman's (1986, 1987) formative work;
  - the nature and composition of pedagogical content knowledge (PCK);
  - the genesis, configuration, use and value of the *Knowledge Quartet* (Rowland et al., 2005, 2009);
  - subject English, including models thereof; and
  - the *Protocol for Language Arts Teaching Observation* (PLATO) (Grossman et al., 2009).
- In Chapter 3: Methodology, the systematic process by which the research was completed is comprehensively related. The research questions are restated before the methodology is recapitulated and the strategy of inquiry described and justified. Thereafter, discussion of ethical desiderata proceeds thorough description of Stage 1, the pilot study, and Stage 2, the main study. The four teachers whose pedagogy-of-

subject-English is the focus of Chapter 4 are, then, introduced before the 28 categories of the *Knowledge Quartet – English* (KQ-E) are expounded.

- In Chapter 4: Results and Analysis, detailed KQ-E-based analyses of the pedagogy-of-subject-English demonstrated by each of the four teachers are presented. Each analysis includes a descriptive synopsis of the observed/video-recorded lesson followed by a section *Analytical synopsis*, which pertains to RQ1; thereafter, a section *Realisation* pertains to RQ2; finally, a section *Implications* pertains to RQ3. A comprehensive chapter summary, in which the results if the analyses are collated, is presented.
- In Chapter 5: Discussion, the findings of the analyses vis-à-vis the corpus of literature reviewed in Chapter 2 are discussed. The project's contribution to theory, practice and policy is recognised, and its limitations identified. Also, recommendations re opportunities for additional, and valuable, research vis-à-vis the KQ-E are made. The project is summarised before the thesis is closed with a short envoi statement.

Chapter 2: Literature Review

Introduction

Herein, a corpus of scholarly literature relevant to the study is reviewed. This review forms a backdrop to, and situates, the research documented in later chapters of the thesis. Importantly, it demarcates the gap in knowledge which the research aims to fill. The chapter consists, firstly, of an account of the character and organisation of teacher knowledge, précising, particularly, key aspects, critiques and elaborations of Shulman's (1986, 1987) well-known conceptualisation thereof. Thereafter, the conditions of the emergence of Rowland et al.'s (2005, 2009) *Knowledge Quartet* (KQ) are synopsised before the nature, structure and content of that model of pedagogical content knowledge is specified. Then, a corpus of scholarly material concerning the process, and results, of application of the KQ is reviewed. Thereafter, research that occasioned modification of the KQ is discussed. The notion of a Knowledge Quartet for subject English is posited, and epistemological-pedagogical conditions that might impress thereon are presented vis-à-vis (a) four enduring models of subject English and (b) the composition of the *Australian Curriculum: English* (ACARA, 2016a). Thereafter, Grossman et al.'s (2009) theoretically sensitising *Protocol for Language Arts Teaching Observation* (PLATO) is presented before the chapter is concluded with a recount of its content and restatement of the research objective. Hereunder, the chapter proper begins with an account of the outcomes of endeavours to illuminate and codify teachers' knowledge-for-teaching, including Shulman's influential taxonomy.

Teachers' Knowledge-for-Teaching

Teachers' knowledge-for-teaching has been the subject of sustained inquiry for 30+ years, yet establishing persuasive and productive taxonomies thereof has proved challenging (Hu, 2014). Teachers, Borg (2003) acknowledged, are "active, thinking decision-makers" (p.

81) whose instructional choices derive from interaction among stores of received, personal, experiential and local knowledge variously recruited amid the process of negotiating the pedagogical contexts-exigencies of the classroom (Mann, 2005). As Petrou (2010) noted, "[n]o one type of knowledge functions in isolation in teaching" (p. 2021). Thus, the phenomenon of teacher knowledge, as Fennema and Franke (1992) noted, "is not monolithic. It is a large, integrated, functioning system with each part difficult to isolate" (p. 148).

Efforts to capture and codify this complexity commenced during the early 1980s (e.g., Elbaz, 1981, 1983) and, thereafter, were motivated, particularly, by the seminal work of Shulman (1986, 1987), whose landmark conceptualisation of teacher knowledge has formed the basis of "modern empirical study of teacher knowledge" (Rowland, 2013, p. 15). Shulman (1987) conceived of knowledge-for-teaching as being grounded, particularly, in comprehensive, or 'deep', content-specific knowledge, and "[h]is work with secondary teachers of English, biology, mathematics and social studies allowed him and his colleagues to develop a…theoretical framework of teacher knowledge which has since become widely influential" (Petrou & Goulding, 2011, p. 10). As Ruthven (2011) stated, "[t]he Shulman taxonomy…[has] mesmerised the field" (p. 86).

Shulman's (1987) notion of *pedagogical content knowledge* (PCK), especially, has become, for educationists, a compelling epistemological concept, melding the hitherto separate knowledge bases of content and pedagogy (Ball et al., 2008). Indeed, Rowland (2013) declared that "[PCK] is, arguably, Shulman's most enduring contribution to the field" (p. 16). Components of Shulman's taxonomy, particularly PCK, provided a conceptual grounding for the program of research that led, eventually, to the development of Rowland et al.'s (2005, 2009) *Knowledge Quartet.* Thus, as theoretical antecedent to that typology – and, indeed, as general conceptual 'coat-hanger' on which to locate and comprehend the current project – Shulman's knowledge bases for teaching are, hereunder, précised.

Shulman's Conceptualisation of Knowledge-for-Teaching

Shulman (1986, 1987) listed seven hypothetical domains of knowledge-for-teaching:

1. general pedagogical knowledge
2. knowledge of learners' characteristics
3. knowledge of educational context
4. knowledge of educational purposes and values
5. subject matter knowledge
6. curriculum knowledge
7. pedagogical content knowledge

Domains 1, 2, 3 and 4 represent bodies of knowledge-for-teaching that "are generic in nature" (Rowland et al., 2009, p. 20): Shulman (1987) acknowledged their importance, but emphasised, instead, domains 5, 6 and 7, which constitute *content-specific* bodies of knowledge-for-teaching. These domains represented, for Shulman (1986), the hitherto "missing program" (p. 25) in research-on-teaching, and his subsequent petition to researchers to investigate their role in, and impact on, classroom instruction prompted a tract of inquiry that continues today.

Subject Matter Knowledge

The first body of knowledge to comprise the teacher's field of discipline-specific knowledge-for-teaching is *subject matter knowledge* (SMK), defined by Shulman (1986) as "the amount and organisation of knowledge per se in the mind of the teacher" (p. 9). Each of the different subjects within school curricula features, Shulman acknowledged, a distinctive conceptualisation of SMK: "In the different subject matter areas, the ways of discussing the content structure of knowledge differ" (p. 9). Generally, however, SMK consists, he said, of two configurations of knowledge: the first, substantive knowledge, or 'knowledge of',

concerns the content and structure of the discipline; the second, syntactic knowledge, or 'knowledge about', concerns principles and processes by which knowledge is generated and accepted by that discipline.

Ball (1988) remarked, succinctly, that "[k]nowledge of [subject] is basic to being able to help someone else learn it" (p. 43). Rephrased plainly: *You can't teach what you don't know*. True. Yet the findings of several studies – for example, the School Mathematics Study Group (1972), Eisner (1977), Begle (1979), Druva and Anderson (1983), Ahn and Choi (2004) and Blömeke, Suhl, Kaiser and Döhrmann (2012) – have indicated that commonplace assumptions re teacher SMK correlating, directly, with student learning are false. Hattie (2009) concurred, reporting that, in and of itself, teacher SMK impacts minimally on students' achievement (effect size = 0.09).

Rather, "teacher effects on student achievement are driven by teachers' ability to understand and use subject-matter knowledge to carry out the tasks of teaching" (Hill, Rowan & Ball, 2005, p. 372). Teachers mediate between their SMK and students' learning (Fennema & Franke, 1992). Critically, however, effective mediation relies, as Hill et al. implied, on comprehensive SMK. As Abdulhamid and Venkat (2013) stated, "teachers' [subject] knowledge is strongly related to the quality of their…instruction and [consequently] learners' achievement gains" (p. 47). Fennema, Carpenter and Peterson (1989) and Carpenter and Fennema (1992), for example, observed that pedagogic efficacy and student learning was greater re those aspects of mathematics about which teachers had better-developed SMK: "[I]t is clear that in the area in which Ms Jackson was more knowledgeable, instruction and subsequent learning was richer" (Fennema & Franke, 1992, p. 150). Ball (1991) and Hill et al. (2005) reported likewise. Hashweh (1987) investigated the impact of science teachers' biology- and physics-related SMK on teaching. He reported that, for those areas wherein teachers' SMK was well-developed, teaching-learning tasks concerned the integration,

application and transfer of knowledge, and students' misconceptions were promptly addressed. For those areas wherein teachers' SMK was less developed, rigid adherence to textbook content was common; teaching-learning tasks concerned recall of knowledge; and students' misconceptions went unrecognised or unchallenged. SMK, Hashweh concluded, "[contributes] greatly to the transformation of the written curriculum into an enactive curriculum" (p. 119). Wineburg and Wilson (1991) described the instructional effects of two expert history teachers' SMK. Despite marked differences between their instructional styles, each demonstrated rigorous comprehension of the historical concepts being taught, and this, Wineburg and Wilson concluded, underpinned the positive learning outcomes achieved by students in each of the classes. More recently, Ma (1999, 2010) demonstrated that, for primary school teachers, well-developed knowledge of mathematics *at that level of instruction* is, pedagogically, more powerful than knowledge of advanced mathematics. Comparing Chinese and U.S. elementary teachers, she argued the former's 'profound understanding of fundamental mathematics' underpinned effective teaching and, consequently, high levels of student success; U.S. elementary teachers' comparatively superficial understanding, however, restricted their pedagogic potential and, thus, student achievement. Similarly, Jones and Chen (2012) reported the fragility of Australian teachers' explicit knowledge-about-language, and how, then, that brittle SMK might limit their pedagogic efficacy when language itself becomes the object of teaching-learning. Harper and Rennie (2009) reported likewise. Hattie (2011) revisited the topic of teacher SMK and student learning, recognising their proximate relationship. Comprehensive SMK, he stated, enables

> teachers [to] identify the most important ways in which to represent the subject that they teach. … They can detect and concentrate more on information that has most relevance…and they can identify a greater store of strategies that

> students might use when solving a particular problem. They are therefore able to predict and determine the types of error that students might make, and thus they can be much more responsive to students. (pp. 28-29)

Thus, Hattie (2011) acknowledged the pedagogic effects of comprehensive SMK. Shulman (1986, 1987) captured the critical interaction between SMK and pedagogy in the second of his proposed content-specific knowledge bases for teaching, *pedagogical content knowledge*.

Pedagogical Content Knowledge

The second body of knowledge to comprise the teacher's field of discipline-specific knowledge-for-teaching is *pedagogical content knowledge* (PCK), defined by Shulman (1986) as "knowledge…which goes beyond knowledge of subject matter per se to the dimension of subject matter knowledge *for teaching* (p. 9) and, later, as "that special amalgam of content and pedagogy" (Shulman, 1987, p. 8). Thus, the concept of PCK challenges the customary notion that subject knowledge for teaching consists, simply, of (subject) knowledge developed by studying a subject (e.g., English, History, Mathematics, Science) to a level that offers adequate proficiency in the material intended for instruction (i.e., *I know* x *for myself; thus, I can, surely, teach* x *to others*). SMK alone, Grossman and Shulman (1994) stated, "is not sufficient for teachers" (p. 12). Rather, "teaching requires *more than* [emphasis added] what would ordinarily constitute expert knowledge of a subject" (Ruthven, 2011, p. 83); namely, a distinct category of knowledge that represents the synthesis of SMK and general pedagogical knowledge (GPK) – that is, PCK, "the *only* form of knowledge that impacts teaching practice" (Gess-Newsome, 1999, p. 10).

PCK comprises, Shulman (1986) stated, a "veritable armamentarium" of experience- and research-based means of "representing and formulating the subject to make it

comprehensible to others" (p. 9), including strategies "most likely to be fruitful" (p. 10) when teaching content that proves, characteristically, challenging for learners to comprehend/master, or when remedying misunderstanding. Thus, PCK involves rethinking SMK for pedagogical purposes, giving consideration to: (a) the depictive efficacy of the re-presentation, while preserving the integrity of the subject matter; and (b) knowledge of typical student (mis)conceptions of that content (Ball et al., 2008). Shulman (1987) called the process of reshaping SMK into forms amenable to/for instruction 'transformation'; Ball (1990) 'representation'; Veal and MaKinster (1999) 'translation'; Bullough (2001) 'professionalising'; and Dewey (1902/1983) 'psychologising'. PCK, Shulman stated, is "uniquely the province of teachers, their own special form of professional understanding" (p. 7) and "the category [of discipline-specific knowledge] most likely to distinguish the understanding of the content specialist from that of the pedagogue" (p. 8). As Wineburg and Wilson (1991) stated:

> Unlike the [content specialist], who only has to face inward toward the discipline, the teacher of [a subject] must face inward and outward, being at once deeply familiar with the content of the discipline while never forgetting that the goal of this understanding is to foster it in others. … *It is precisely in this meeting of subject matter and pedagogy…that we see the expertise of…teachers most clearly* [emphasis added]. (pp. 335-336)

Curriculum Knowledge

The final body of knowledge to comprise the teacher's field of discipline-specific knowledge-for-teaching is *curriculum knowledge* (CK), defined by Shulman (1986) as

> the full range of programs designed for the teaching of particular subjects and topics at a given level, the variety of instructional materials in relation to those

> programs, and the set of characteristics that serve as both the indications and contraindications for the use of particular program materials in particular circumstances. (p. 10)

Thus, CK concerns knowledge of documents, initiatives and resources available to support, guide and direct teaching, including the official curriculum (e.g., the *Australian Curriculum: English*) and other "*materia medica* of pedagogy" (p. 10) – what Shulman called 'lateral' curriculum knowledge – and, also, knowledge of "the continuity of learning across the school years…from kindergarten to Grade 12" (Freebody, on the *Australian Curriculum: English*; see https://www.australiancurriculum.edu.au/f-10-curriculum/english/rationale/) – what Shulman called 'vertical' curriculum knowledge. Reflecting the 1980s U.S. educational context, Shulman's account of curriculum knowledge, Petrou and Goulding (2011) cautioned, implies a loose curriculum framework wherein teachers may exercise professional autonomy. That account, they stated, "may not be applicable in different contexts" (p. 11) – including Australia – wherein teacher autonomy is curtailed by "official guidance and assessment systems. … Thus, teachers may not draw on the full range of what is available to them, or even know about what is available to them, because they are limited by the testing regime" (p. 11). Certainly, Thomas (2014), Thompson and Harbaugh (2012), and Ward (2012) concluded that, in Australia, the high-stakes National Assessment Program – Literacy and Numeracy (NAPLAN) – the "annual national assessment [in reading, writing, language conventions (spelling, grammar and punctuation) and numeracy] for all students in Years 3, 5, 7, and 9" (ACARA, 2016b, para. 1) – has moderated the foci of teaching-learning and constrained pedagogy.

Developing Knowledge-for-Teaching: Pedagogical Reasoning and Action

Alongside his categorisation of generic and content-specific domains of teacher knowledge, Shulman (1987) proposed, also, a "process of pedagogical reasoning and action" (p. 12), which describes how knowledge informs, and develops from, the intellectual occupations of teaching. It consists of six phases: (1) comprehension; (2) transformation; (3) instruction; (4) evaluation; (5) reflection; and (6) new comprehension. Four sub-processes of (2) transformation – (i) interpretation; (ii) representation; (iii) adaptation; and (iv) tailoring – constitute the cognitive activity of PCK (Wilson, Shulman & Richert, 1987): amid the process of interpreting and representing a disciplinary concept, the teacher must, also, adapt that concept to a general schooling situation and, moreover, tailor it to suit the needs of a particular group of students. The model, Grossman and Shulman (1994) contended, "is fundamentally a conception of how teachers continue to learn from their experiences in the classroom" (p. 10); and reflection, they argued, permeates the whole cycle, driving "thought and learning" (p. 10). During (1) comprehension and (2) transformation – pre-active instruction – the teacher engages in reflection *for* action; during (3) active instruction, in reflection *in* action; and during (4) evaluation – post-active instruction – in reflection *on* "both thought and action" (p. 10). Pedagogical reasoning, Grossman and Shulman continued, is "one of the most important places where teacher knowledge develops [and] is well worth our research interest and efforts" (p. 10). The *Knowledge Quartet* (Rowland et al., 2005, 2009), as later sections of this chapter demonstrate, supports pedagogical reasoning and, thereby, development of knowledge-for-teaching.

Critique and Elaboration of Shulman's Taxonomy

Although Shulman's (1987) taxonomy of knowledge-for-teaching was pioneering – and, 30+ years later, remains influential – subsequent scholars, having contended his

conceptualisations of the content-specific categories were insufficiently developed and, therefore, of limited theoretical utility, have sought to clarify and reconstitute his ideas, thereby cultivating the heuristic value of his work. PCK, particularly, has been scrutinised.

Pedagogical Content Knowledge is Difficult to Conceptualise

The intellectual allure of Shulman's proposed second body of content-specific knowledge for teaching is demonstrated in the number of scholars who have assimilated the construct; sought to illustrate its importance in teaching; reconfigured it; and questioned its nature and, even, validity (Turner-Bisset, 1999). As Rowland and Turner (2007) acknowledged, "[p]edagogical content knowledge (PCK) is particularly difficult to define and characterise, conceptualising both the link and the distinction between knowing something for oneself and being able to enable others to know it" (p. 107). Indeed, Shulman himself (1986, 1987) provided fluctuating conceptualisations of PCK and periodically revised its place among his proposed constellation of knowledge bases for teaching. McNamara (1991) disputed the validity of PCK, while Gess-Newsome (1999) conceded it "has fuzzy boundaries" (p. 10). McEwan and Bull (1991), Bennett and Turner-Bisset (1993) and Ball et al. (2008), for example, argued that Shulman's distinction between SMK and PCK was vague – even unjustifiable, since during teaching "all knowledge is presented pedagogically in some way" (Turner-Bisset, 1999, p. 42). Similarly, whether or not PCK is, in fact, a discrete domain of knowledge was, for Lederman and Gess-Newsome (1992), "more of a theoretical argument than a practical one" (p. 19). The amorphic-malleable character of PCK, Stones (1992) cautioned, diminishes its conceptual power. The construct, he stated, "is of little…help in analysing…teaching" (p. 11). Park and Oliver (2008) concurred.

Consequently, attempts to clearly explicate PCK – and, thereby, develop its theoretical utility – have been common: many researchers have sought to elaborate and clarify Shulman's (1987) conceptualisation of the construct by identifying and describing its

constituent elements based on their beliefs, logical argument and, importantly, empirical investigation. As Table 3 illustrates, however, a universally accepted conceptualisation of PCK has, hitherto, been difficult to fully qualify: "the coherent theoretical framework [that] Shulman (1986) called for [has] remained underdeveloped" (Ball et al., 2008, p. 389). Hu (2014) concurred: "As [the research suggests], there is no one right way to carve up the knowledge in the knowledge base for teaching…and…any classification of an item as PCK is simply a matter of focus" (p. 421).

Table 3

Knowledge domains within different scholars' conceptualisations of pedagogical content knowledge

Scholar(s)	Beliefs about / orientation to teaching	Beliefs about / orientation to subject	Knowledge of									
			Learner cognition specific to subject matter	Representations and strategies	Subject curriculum	Purpose[1]	Subject matter	Context	General pedagogy	Assessment	Media	Self
Shulman (1987)			●	●								
Tamir (1988)			●	●	●					●		
Smith & Neale (1989)			●	●		●						
Grossman (1990)			●	●	●	●						
Marks (1990)			●	●			●				●	
Fennema & Franke (1992)		●	●	n			●	●	●			
Cochran, DeRuiter & King (1993)			●	n			●	●	●			
Geddis et al. (1993)			●	●	●							
Fernández-Balboa & Stiehl (1995)			●	●		●	●	●				
Magnusson et al. (1999)			●	●	●	●				●		

Turner-Bisset (1999)	●	●	●[2]	n	●	●	●	●	●				●
Hashweh (2005)			●	●	●	●	●	●	●	●			
Loughran et al. (2006)			●	●		●	●	●	●				
Ball et al. (2008)			●	●	●								
Park & Oliver (2008)		●	●	●	●					●			
Gess-Newsome et al. (2019)							●[3]	●[4]	●[5]				

After van Driel et al. (1998), Park and Oliver (2008) and Danişman and Tanişli (2017)

● = scholar(s) included this domain of knowledge as a component of PCK.

n = Not discussed explicitly; the implied result of interaction between other domains of knowledge within PCK.

[1] Includes short- and long-term purposes: the goal(s) of a lesson or series of lessons and, also, the larger goals of education (e.g., personal growth, workforce employment, active citizenry, etc.).

[2] Turner-Bisset (1999) included, also, *empirical or social knowledge of learners* in her model of PCK, a domain that comprises knowledge of "what children of a particular age range are like; how they behave in classrooms and school; their interests and preoccupations; their social nature; how contextual factors…can have an effect on their work and behaviour; and the nature of the child-teacher relationship" (p. 45).

[3] Including "accuracy of [subject matter knowledge]; connections within and between topics and the nature of [subject]; and use of multiple modes of representation or examples of a topic" (p. 950).

[4] Including "a rationale linking teaching strategies to student learning; strategies for eliciting student prior understandings; and strategies to promote student examination of their own thinking" (p. 950).

[5] Including "understanding how student variations, such as student prior conceptions, impact instructional decisions" (p. 950).

Some consensus is, nevertheless, apparent: the listed scholars generally agree that, *irrespective of subject matter* (Hu, 2014), PCK includes, at least, knowledge of (a) cogent representations of subject matter and (b) learner cognition, including knowledge of overall cognitive development and cognition specific to particular content. Many include, also, knowledge re curriculum, purpose and context within their conceptualisations. They generally agree, too, with Shulman's (1986, 1987) account of the nature of PCK – namely, that:

- PCK is, at least, predicated on well-developed SMK;
- because PCK concerns the teaching of particular topics, it differs from SMK. PCK *is* "more than…expert knowledge of a subject" (Ruthven, 2011, p. 83);
- PCK concerns particular topics and, therefore, is distinguishable from knowledge bases that "are generic in nature" (Rowland et al., 2009, p. 20); and
- PCK develops via "an integrative process rooted in classroom practice" (van Driel et al., 1998, p. 673), meaning "prospective or beginning teachers usually have little or no PCK at their disposal" (p. 677). Grossman (1990) concurred: "Experienced teachers may possess rich repertoires of metaphors, experiments, activities, or explanations that are particularly effective for teaching a particular topic, while beginning teachers are still in the process of developing a repertoire of instructional strategies and representations" (p. 9).

The scholars agree, also, that domains of knowledge outside PCK interact with and shape PCK. Knowledge-for-teaching, Fennema and Franke (1992) stated, is "a large, integrated, functioning system" (p. 148). Thus, the models of PCK proposed by the scholars recognise the interaction between PCK and domains of knowledge beyond it. As Grossman and Shulman (1994) stated, "pedagogical content knowledge is inextricably linked to other

knowledge necessary for teaching. … The different domains of teacher knowledge are inevitably interactive and interdependent" (p. 13).

Pedagogical Content Knowledge is Difficult to Measure

PCK, the preceding demonstrated, is complex – problematic to conceptualise and, similarly, to measure (Shulman, 1988). Morrison and Luttenegger (2015) noted "there is no single established approach for measuring PCK" (p. 805), while Hill, Ball and Schilling (2008) "learned…that measuring such knowledge is not a straightforward enterprise" (p. 395). Even so, Rowland et al. (2009) asked, "[H]ow can we tell if a teacher has [PCK]?" (p. 23). Grossman and Shulman (1994) employed "a variety of methods" (p. 10) to investigate English teachers' PCK, finding "think-aloud tasks" (p. 10), wherein teachers "[thought] aloud about a short story or poem, or…sample of student writing" (p. 10), particularly beneficial. Hay et al. (2015), too, found sample- and scenario-based think-alouds conducive to explicating teachers' PCK. Similarly, Hill et al. developed a series of scenario-based multiple-choice items which, they asserted, illuminate-measure PCK: "our results [indicated] that teachers have skills, insights, and wisdom beyond that of mathematically well-educated adults" (p. 395). Beswick, Callingham and Watson (2012), too, developed a survey to elucidate teachers' mathematics knowledge for teaching (including beliefs, SMK and PCK). However, such methods, Rowland et al. (2009) cautioned, "give a measure of [teachers'] *theoretical* pedagogical content knowledge…[and] might not necessarily reflect how [they] would act in practice" (p. 24).

Indeed, Hegarty (2000) argued that schemes of classification of teacher knowledge contribute minimally to understanding effective teaching, since representing teacher knowledge via such methods fails to explicate the link between knowledge-for-teaching and, then, teachers' actions in situ. That is, classification is *not* equal to explanation, yet "the point of a professional knowledge base is that is does impinge on practice" (p. 460). Hegarty

presented, instead, a model of "intelligent practical behaviour" (p. 461) wherein partially disconnected cognitive and skill-based domains of teacher expertise coalesce, as needed, to form coherent responses to "the multiplicity of open-ended classroom encounters" (p. 458). According to Hegarty's model, knowledge-for-teaching is located, firmly, within teaching itself and, therefore, may only be identified and understood via examination thereof. Mason and Spence (1999) agreed. So, too, did Shulman (1986), it seems: as well as developing categories of teacher knowledge, he proposed, also, that knowledge-for-teaching exists in three forms. These forms "are not separate from [his seven proposed domains of knowledge-for-teaching], but rather describe different forms of each kind of teacher knowledge" ("Shulman (1986)", 2014, para. 8). They are:

- *propositional knowledge*, which refers to teachers' theoretical knowledge, and consists of: principles, which emerge from "research on teaching and learning" (Shulman, 1986, p. 10); maxims, which emerge from practical experience; and norms, which address moralistic issues.
- *case knowledge*, which refers to teachers' experiential knowledge, and consists of: prototypes, which exemplify theoretical matters; precedents, which communicate maxims; and parables, which communicate norms; and
- *strategic knowledge*, which refers to teachers' knowledge-in-action, the process of applying propositional and case knowledge to pedagogical encounters.

Shulman's (1986) conceptualisation of forms of knowledge-for-teaching articulates, it seems, with Hegarty's (2000) position: the knowledge needed for teaching is constructed during teaching as potentially relevant propositional and case knowledge is 'strategised' (i.e., prioritised and utilised). Moreover, assembling the corpus of (strategic) knowledge required to navigate, successfully, complex pedagogical encounters demands *reasoned judgement* (Shulman, 1986). Often, pedagogical scenarios, Ruthven (2011) stated, "cannot be

adequately framed in 'pure' terms drawn from a single knowledge domain, or even by drawing on several domains independently" and, therefore, their "resolution…must take account of, and often trade off [*sic*] between, interacting considerations of quite different types, framed in correspondingly different terms" (p. 85). Thus, teachers, Shulman observed, must be "not only…master[s] of procedure but also of content and rationale, and capable of explaining why something is done." (p. 13). Their pedagogical responses entail, typically, a *fusion* of considerations, undistillable into the purview-substance of any single theoretical domain of knowledge. Indeed, Watson (2008) cautioned that categorising knowledge-for-teaching (i.e., 'knowledge of *abc*', 'knowledge of x*yz*', etc.) obscures complex interaction between domains of knowledge. Moreover, for reasons of ecological adaptation and cognitive economy, teachers' knowledge-for-teaching tends to organise itself around archetypal problems-solutions which – because they correspond, closely, to/with experienced teaching situations – involve the irreducible melding of different domains of expertise (Ruthven, 2011).

Thus, strategic knowledge – that is, reasoned actualisation of propositional and case knowledge – is pluralistic and, moreover, representative. Identifying these 'in vivo' manifestations of propositional and case knowledge was the focus of the Cambridge team's research.

The Emergence of the *Knowledge Quartet*

Establishing constructive taxonomies of teachers' knowledge-for-teaching – and means of gauging that knowledge – has proved challenging. Hegarty (2000) questioned the value of such effort, arguing that classifications of teachers' knowledge-for-teaching contribute minimally to understanding the knowledge-practice nexus. Teaching, he argued, is complex problem-solving activity located within, and directed toward resolving, satisfactorily (if imperfectly), dynamic pedagogical encounters. Knowledge-for-teaching, he argued, is

constructed in the context of teaching – and, as such, is understandable, only, as 'living' knowledge in that context. Moreover, the plurality of expertise typically demanded by, and synthesised in, teaching situations complicates the taxonomic process: "[H]ow difficult it is to disentangle different aspects of teacher knowledge…because of the way they interrelate to produce the teaching outcome" (Rowland et al., 2009, p. 33). Indeed, Ruthven (2011) stated that teachers' professional knowledge is consolidated, often, around characteristic scenarios.

Thus, whereas the scholars listed in Table 3 sought to refine Shulman's (1987) taxonomy, Rowland et al.'s (2005, 2009) objective was, instead, to develop a model of pedagogical expertise grounded, more directly, in analysis of teachers' knowledge-in-use during episodes of classroom instruction. Teacher knowledge must, Fennema and Franke (1992) maintained, be studied "as it occurs in the context of the classroom" (p. 162). Similarly, Rowland et al. (2009) remarked that "mathematical content knowledge for teaching is most clearly seen in the act of teaching" (p. 25). Thus, they asked, "[H]ow might we identify different aspects of teacher knowledge that have an impact on teaching from observations of that teaching? This was a question that interested [us]" (p. 26). Via their observations and analyses of (pre-service teachers') mathematics teaching, the Cambridge team developed a catalogue of teacher knowledge-in-use – the *Knowledge Quartet* – that, while paralleling, somewhat, Shulman's taxonomy (Turner, 2012), establishes, instead, prototypical schemes of classification, educed via paradigmatic examples. "Essentially, the *Knowledge Quartet* provides a repertoire of ideal types that provide a heuristic to guide attention to, and analysis of, mathematical knowledge-in-use within teaching" (Ruthven, 2011, p. 85). Thus, the *Knowledge Quartet* transcends taxonomies of knowledge *for* teaching by capturing, instead, knowledge-for-teaching as realised *in* teaching. As Turner and Rowland (2011) stated, "the *Knowledge Quartet*…provides a framework for analysis of the mathematics content knowledge that informs teacher insights when they are brought together

in practice, so that the distinction between different kinds of mathematical knowledge is of lesser significance than the classification of the situations in which mathematical knowledge surfaces in teaching" (p. 196). The *Knowledge Quartet* constitutes, too, Hay, Thomas and Shorter (2019) noted, a refreshing departure from the usual centrality of Shulman's model.

The *Knowledge Quartet* is a Theoretical Loop

The field of educational inquiry seeks to investigate and inform, concurrently, the practices of educational institutions, including the pedagogy that features in classrooms (Thomas & Corbett, 2018). Schwab (1983) challenged the assumption that *a priori* theory significantly informs teaching, stating that "[a] linear movement from theory to practice is absurd" (p. 241). Guskey (1986) concurred. Educational research recognises, instead, a dialectical relationship between theory and practice: pragmatically oriented, it focuses, first, on theorising practice before, then, applying that conceptualisation "to develop the very practices that are researched" (Skott, 2006, p. 1606). Theories that *inform* teaching are derived, often, from studies *of* teaching, and Skott "coined the term 'theoretical loop' to capture this dialectical relationship between theory and practice in teacher education" (Rowland, 2007, p. 17). The *Knowledge Quartet* constitutes a theoretical loop: studying teaching (*practice*) occasioned development of the framework (*theory*), which has, subsequently, been applied to, and informed, mathematics teachers' pedagogy (*practice*).

Pedagogical reasoning, Grossman and Shulman (1994) contended, is a primary locus of teacher knowledge. As such, investigating and developing means to motivate and support that amalgam of intellectual activity is, they continued, worthy of researchers' attention and energies. A product of such focus and effort, the *Knowledge Quartet* enables 'communities of practice' (Wenger, 1998) regarding content-specific knowledge as realised in mathematics teaching (Rowland et al., 2009), and research indicates the potential of the framework to stimulate mathematics teachers' reflection-on-practice and professional learning.

Described hereunder, the *Knowledge Quartet* is a practice-based theory of knowledge-in-mathematics-teaching wherein four superordinate categories – Foundation, Transformation, Connection and Contingency – each incorporate several distinct expressions of, either, propositional or procedural knowledge.

The *Knowledge Quartet*

Motivated by the aims of the *Subject Knowledge in Mathematics* (SKIMA)[1] project, the Cambridge-based SKIMA subgroup conducted a program of research that led, eventually, to development of the *Knowledge Quartet* (KQ). As Rowland (2008) stated, "we (the Cambridge team) wanted to identify, and to understand better, the ways in which elementary teachers' mathematics content knowledge, or lack of it, is evident in their teaching" (p. 275). Thus, the KQ was proposed by Rowland et al. (2005) following a three-year period of data-collection/preparation, analysis and theorising. The Cambridge team's motivation to develop a model "to organise the complexity of what [they] saw in…24 [mathematics] lessons [by 12 pre-service primary school teachers]" (Rowland, 2008, p. 182) was, initially, academic. Later, however, awareness of the "practical potential" (p. 286) of the model emerged: "Our 'pure' research clearly offered a basis for us to develop an empirically-based conceptual framework for lesson reviews" (p. 286). Taking "a grounded approach to the data for the purpose of generating theory" (p. 281), the Cambridge team identified, via the process of

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[1] A research project involving "ongoing collaboration between researchers at four universities [in England] – Cambridge, York, Durham and…London – [that]…focuses on the following issues:

- the relationship between subject knowledge and teaching;
- how subject knowledge is evidenced in the classroom…;
- [pre-service teachers] who make the greatest gains in subject knowledge…and those whose subject knowledge remains weak;
- [pre-service teachers'] attitudes towards mathematics, their confidence and their strategies for addressing weaknesses."

(Subject Knowledge in Mathematics, 2004, para. 1 & 3)

open coding, 17 categories of pedagogical activity demonstrated by the pre-service teachers during the mathematics lessons; via axial coding, those categories were, then, synthesised into four superordinate categories, or dimensions – Foundation, Transformation, Connection and Contingency. Later, as a result of theoretical sampling, three more categories were added to the KQ – one, *Use of instructional materials*, to Transformation (Petrou, 2008, 2010), and two, *Teacher insight* and *Responding to the (un)availability of tools and resources*, to Contingency (Corcoran, 2007; Thwaites et al., 2011). Substantive conceptualisations of the four dimensions of the KQ are presented below. As per Chapter 1, the KQ provides a specific conceptual grounding for this project.

Foundation

The first of the dimensions of the KQ, Foundation – which includes seven of the 20 categories (see below) – addresses propositional knowledge and beliefs: "It differs from the other three [dimensions] in the sense that it is about knowledge possessed, irrespective of whether it is being put to purposeful use or not" (Rowland & Turner, 2007, p. 112). Encompassing expressions of *theoretical* SMK and PCK (Turner, 2012), Foundation underpins each of the other three dimensions: "[b]oth empirical and theoretical considerations have led [the Cambridge team] to the view that the other three [dimensions] flow from a theoretical underpinning" (Rowland et al., 2005, p. 260). It concerns knowledge and beliefs that may, in Aristotelian terms, *potentially* inform the teacher's practice: the range of cognitive 'capital' captured-encompassed by the dimensions – including "knowledge and understanding of [content] per se" (Rowland & Turner, 2007, p. 112) and, moreover, beliefs re the ontological status of that content and purpose and processes of teaching it – has "the potential to inform pedagogical choices and strategies in a fundamental [i.e., rational, reasoned] way" (Rowland et al., 2009, p. 30). Foundational knowledge and beliefs are informed, partly, by "significant tracts of the literature on the teaching and learning of [the

content]" (Rowland, 2008, p. 189) and, also, experience. Thus, the 'substance' of the dimensions derives from propositional *and* case knowledge (Turner, 2012). The seven component categories of Foundation are:

- Theoretical underpinning of pedagogy
- Awareness of purpose
- Identifying pupil errors
- Overt display of subject knowledge
- Use of subject-specific terminology
- Adherence to textbook
- Concentration on procedures

The remaining three dimensions of the KQ – Transformation, Connection and Contingency – capture contexts and modalities wherein foundational knowledge and beliefs have informed or presented on the practice – including the planning, preparation and conduct – of teaching. In Aristotelian terms, then, these dimensions encompass teaching *in actuality*, capturing situations wherein "propositional knowledge is activated to make it accessible to learners in the process of teaching" (Turner, 2012, p. 256).

Transformation

The second of the dimensions of the KQ, Transformation – which includes four of the 20 categories (see below) – captures-encompasses manifestations of active PCK; specifically, the teacher's adaptation of SMK into cogent forms that resonate with students, including analogies, demonstrations, examples/illustrations and explanations. Abdulhamid and Venkat (2013) described Transformation as "[lying] at the heart of the [K]nowledge [Q]uartet" (p. 49). The first established domain of PCK – knowledge of representations and strategies – is realised within Transformation, and the essence of the dimension is reflected in Shulman's

(1987) observation that "the knowledge base of teaching lies at the intersection of content and pedagogy, in the capacity of the teacher to transform the content knowledge that he or she possesses into forms that are pedagogically powerful" (p. 15); or, as Ball (1988) described, in "knowing [content] in order to be able to help someone else learn it" (p. 44).

Transformational knowledge, too, is informed by a type of literature – namely, the practically-oriented material common to the teacher reference section of a school library (Rowland & Turner, 2007); and, like Foundation, its substance derives from both propositional and case knowledge (Turner, 2012). The four component categories of Transformation are:

- Teacher demonstration
- Use of instructional materials
- Choice of representations
- Choice of examples

Connection

The third of the dimensions of the KQ, Connection – which includes five of the 20 categories (see below) – also captures manifestations of knowledge-in-action; specifically, the teacher's deliberate attempts to cohere, within and between lessons, subject content, including by logically sequencing that content and explicating connections between prior and current learning. The 'connective work' of the teacher – involving, typically, management of subject-specific discourse, and sequencing of topics and tasks – is informed by, and reflects, the integrity of the teacher's SMK and, also, his/her "awareness of the relative cognitive demands of different topics and tasks" (Rowland & Turner, 2007, p. 144). Thus, SMK and, moreover, the second established domain of PCK – knowledge of learner cognition – underpin, and find expression within, the situations captured-encompassed by the dimension.

Like Foundation and Transformation, the substance of Connection derives, Turner (2012) observed, from both propositional and case knowledge. The five component categories of Connection are:

- Making connections between procedures
- Making connections between concepts
- Anticipation of complexity
- Recognition of conceptual appropriateness
- Decisions about sequencing

Contingency

The fourth of the dimensions of the KQ, Contingency – which includes four of the 20 categories (see below) – captures aspects of knowledge-in-*inter*action, as demonstrated by the teacher's ability to 'think on his/her feet' and respond, appropriately, to unexpected input from students "that [has] the potential to take a teacher outside of their planned route through the lesson" (Rowland & Zazkis, 2013, p. 139). Generally, teaching originates, Shulman (1987) proposed, from a text (e.g., curriculum document, textbook) – ultimately, a documented lesson plan that catalogues actions the teacher will take, and tasks the students will complete. While the teacher's actions are plannable, students' responses are not. Rowland et al. (2009) suggested comprehensive SMK informs cogent 'in-the-moment' responses to students' answers, comments and questions, "since such knowledge enables the teacher to anticipate and plan for a greater number of pupil responses" (p. 31). Later, Rowland and Zazkis (2013) described contingent activity as "the *opposite* of planning" (p. 139), acknowledging the role that *each* of Shulman's (1987) categories of knowledge might play in formulating/managing appropriate contingent action. The quality of contingent

action, Rowland (2013) observed, "is undoubtedly determined…by the knowledge resources available to the teacher" (p. 26). The component categories of Contingency are:

- Responding to students' ideas
- Deviation from lesson agenda
- Teacher insight
- Responding to the (un)availability of tools and resources

The *Knowledge Quartet* is summarised in Table 4.

Table 4

The Knowledge Quartet*: A summary*

Dimension	Component categories
Foundation Knowledge and understanding of mathematics *per se*, and of mathematics-specific pedagogy. Also, beliefs concerning the nature of mathematics, the purposes of mathematics education, and the conditions under which students best learn mathematics.	Theoretical underpinning of pedagogy Awareness of purpose Identifying pupil errors Overt display of subject knowledge Use of subject-specific terminology Adherence to textbook Concentration on procedures
Transformation The presentation of ideas to students in the form of analogies, illustrations, examples, explanations and demonstrations.	Teacher demonstration Use of instructional materials Choice of representations Choice of examples
Connection The sequencing of material for instruction, and an awareness of the relative cognitive demands of different topics and tasks.	Making connections between procedures Making connections between concepts Anticipation of complexity Recognition of conceptual appropriateness Decisions about sequencing
Contingency The ability to make cogent, reasoned and well-informed responses to unanticipated and unplanned events.	Responding to students' ideas Deviation from lesson agenda Teacher insight Responding to the (un)availability of tools and resources

After Rowland (2013, p. 25)

Application of the *Knowledge Quartet*

Rowland (2008) stated that, on realising the practical potential of its 'pure' research, the Cambridge team "develop[ed] an empirically-based conceptual framework for lesson reviews" (p. 286) – the *Knowledge Quartet* (KQ). Tabachnick, Popkewitz and Zeichner's (1979) examination of "the student teaching experience" (p. 12) found "that cooperating teacher/student teacher interactions were almost always concerned with…procedural and management issues. There was little or no evidence of any discussion of substantive issues in these interactions" (p. 19). Shulman (1986) agreed, and Borko and Mayfield (1995) and Strong and Baron (2004) discovered likewise. Indeed, several instruments for assessing the quality of *generic* aspects of teachers' practice (e.g., classroom management; maintenance of safe and stimulating learning environments; clarity of instruction; differentiation; student involvement; etc.) have been developed (see, for example, van de Grift, 2007; Pianta, La Paro & Hamre, 2008; and Danielson, 2013). Bell, Dobbelaer, Klette and Visscher (2019), however, noted "[the] widespread agreement about the importance of the *subject-matter specificity* of teaching quality" (p. 8) and, as such, applauded "systems…designed to [capture] teachers' subject-specific practices" (p. 9), including, for example:

- the *Mathematical Quality of Instruction* (MQI) (Hill et al., 2008) – an "observational rubric…for analysing mathematics instruction in several domains" (Center for Educational Policy Research [CEPR], 2019, para. 1-2).
- the *Protocol for Language Arts Teaching Observation* (PLATO) (Grossman et al., 2009) – reintroduced and discussed in detail later in the chapter, "a classroom observation protocol designed to capture features of English…instruction [that] was…developed for the study of the relationship between teachers' classroom practices and student achievement" (CSET, 2013, para. 1). PLATO features a rubric by which to evaluate the quality of demonstrated-observed instruction.

- the *Quality Teaching in Science* (QTS) (Jordens & Zepke, 2019), a "conceptual framework…for quality teaching in science" that "offers science [teachers] an overview of the possibilities for quality teaching in science" (p. 1429).

The KQ, too, stands amid the corpus of schemes of discipline-specific pedagogy: it concerns the *mathematics* content of lessons "and the role of [teachers'] mathematics subject matter knowledge (SMK) and pedagogical content knowledge (PCK)" (Rowland, 2013, p. 18). Distinctively, however, the KQ is void of any evaluative terminology and tools, demonstrating the Cambridge team's belief "in the futility of asserting what a beginning teacher, or a more experienced teacher for that matter, *ought* to know" (Rowland et al., 2005, p. 257). Thus, whereas the purpose of applying, for example, the MQI (Hill et al., 2008) or PLATO (Grossman et al., 2009) is quantified judgement of the quality of teachers' subject-specific pedagogy, the purpose of applying the KQ is, instead, "'knowledgeable-other' analysis and formative feedback" (Rowland, 2013, p. 37) *that stimulates pedagogical reasoning* and, thence, development of subject-specific knowledge-for-teaching.

Following its inception-introduction, the KQ has, indeed, been "extensively 'road-tested'" (Rowland, 2013, p. 21): communities of practice have used the KQ to "support focused reflection on the application of teacher knowledge of mathematics subject-matter and didactics in mathematics teaching" (Weston, Kleve & Rowland, 2012, p. 180) in/for contexts equivalent to, and divergent from, those wherein the framework was generated. Thus, scholarly literature concerning the KQ addresses (1) the framework's efficacy as "a heuristic to guide attention to, and analysis of, mathematical knowledge-in-use within teaching" (Ruthven, 2011, p. 85); including, perhaps, (2) the extent of its applicability in/to contexts that differ, somehow, from its 'context of production'. Hereunder, then, studies that assessed-demonstrated the value of the KQ re teachers' professional learning/practice are

surveyed; thereafter, studies that involved testing the applicability of the framework to alternative contexts are reviewed.

The value of the *Knowledge Quartet* in Teacher Professional Learning

The KQ is "an empirically-based conceptual framework for lesson reviews" (Rowland, 2008, p. 182) that enables "a structured process for reflection whereby teachers – at any stage of their career – can take control of the development of their expertise in teaching mathematics" (Rowland et al., 2009, p. xv). The goal of teacher professional learning (PL) is "to [improve]…the educational enterprise, particularly the quality of teaching and…outcomes for students" (Johnson, 1995, p. 1). To realise this goal, teacher PL must, Johnson (1991, p. 3) summarised:

1. address issues of concern recognised by teachers themselves;
2. take place as close[ly] as possible to the teacher's own working environment, and over an extended period of time;
3. have the support of colleagues…and…outside personnel whose expertise is tapped;
4. build in and coordinate a variety of…training workshops and sharing workshops, teacher-teacher interaction, one-to-one assistance, and meetings;
5. include opportunities for…application…with ongoing colleague 'coaching' or 'mentor' support, and time…for systematic reflection;
6. enable participating teachers to feel…ownership and commitment; and
7. involve groups of teachers rather than individuals.

Turner and Rowland (2008), Jensen et al. (2012), Edwards-Groves et al. (2014) and Cosgrove (2018) provided similar indexes. Application of the KQ – as described in research

literature – is congruent with, and reflects, these principles of effective teacher professional learning.

Edwards-Groves (2003) added, too, that professional development is profitable when 'done' vis-à-vis a conceptual framework that motivates teachers to consider their practice "in a focused and analytic way" (p. 92). The KQ, literature demonstrates, facilitates teachers' regular, collegially-supported examination of distinct components of their subject-specific pedagogy, therein stimulating reflection-on-practice that drives improvements in teaching and, subsequently, student learning. Hereunder, studies that demonstrated the value of KQ-mediated reflection-on-practice are précised.

The Cambridge team illustrated the value of the KQ by exemplifying its application to content-specific pedagogy demonstrated by teachers. The team's initial presentation of the framework (Rowland et al., 2005) included a detailed account of "the way…the quartet can be used to identify, for discussion, matters that arise from…lesson observation, and to structure reflection on the lesson" (p. 264). Pre-service teacher Naomi's lesson on subtraction – specifically, "to understand subtraction as 'difference'" (p. 264) – was analysed via the KQ. Rowland et al. identified matters of Naomi's subject-specific pedagogy distinctive to the purview of each of the dimensions of the framework (Foundation, Transformation, Connection and Contingency). Each matter was, then, framed as a question – for example, under Transformation, "Why did [you] decide to generate the examples for the plenary randomly? How effective were the strategic and random choices?" (p. 273) – that a mentor could ask to stimulate dialogue-reflection. Similarly, Rowland and Turner (2007) "home[ed] in on the [14-minute-long] introduction to…[pre-service teacher Chloë's lesson on subtraction], to see how it might be perceived through the lens of 'the knowledge quartet'" (p. 115). Matters of Chloë's subject-specific pedagogy relevant to each of the dimensions of

the KQ were identified and framed as questions that might structure post-lesson dialogue-reflection.

Abdulhamid and Venkat (2013), too, illustrated the heuristic potential of the KQ. They presented "an…analysis of a single lesson taught by [Sibongile, teacher of a class of 40 Year 5 students at a school in Johannesburg, South Africa]…focused on addition of whole numbers…using [an] empty number line" (pp. 50-51). Abdulhamid and Venkat selected-analysed particular episodes from Sibongile's lesson, identifying-explicating "aspects of mathematical knowledge in teaching relevant to the four dimensions of the [K]knowledge [Q]uartet" (p. 52). Like Rowland et al. (2005) and Rowland and Turner (2007), their analysis of Sibongile's subject-specific pedagogy was broad, framed, only, by the four *dimensions* of the KQ: without reference to any component categories, they discussed aspects of Sibongile's pedagogy relevant to Foundation, Transformation, Connection and Contingency. They posed, then, four questions "for later discussion with Sibongile" (p. 56) that might stimulate reflection-development.

Relevant literature (e.g., Rowland, 2013; Rowland, Thwaites & Jared, 2015; Rowland et al., 2009) features many such illustrations of the descriptive and analytical value of the KQ, which conclude, typically, with 'questions for discussion' that obliquely claim the potential of the framework to usefully inform pedagogical reasoning and, hence, growth of teachers' SMK and PCK for mathematics teaching. Researchers have, since, tested those implicit claims. Hereunder, the findings of four such inquiries are presented.

Weston (2018) described using the KQ to frame-support pre-service teachers' planning-for-mathematics-teaching and, also, their observation of mathematics instruction. She selected six categories from the framework for pre-service teachers "to [focus their] attention on…in lesson planning" (p. 77): from Foundation, *Use of subject-specific*

terminology and *Concentration on understanding*[2]; from Transformation, *Choice of representations* and *Choice of examples*; and from Connection, *Anticipation of complexity* and *Decisions about sequencing*. For observation, she added *Responding to students' ideas* (from Contingency). Weston provided evidence of the value of KQ-mediated observation of mathematics instruction. Sans the designated categories to focus their observation of video-recorded mathematics teaching, pre-service teachers attended, she found, to "superficial or nonmathematical concerns such as classroom management" (p. 78): they noticed, for example the teachers' presence, control and "'great use of rhyme to help students remember'" (p. 79). However, when re-observing that same teaching via the specified optics of the KQ, they concentrated, more, on mathematics-related issues: "All of the aforementioned comments were crossed out and replaced with quotes such as 'it would have been helpful to explore other methods', that students 'could get caught up in knowing the rhyme but not understanding it'…'students need to understand concepts and use own thinking'' (p. 79). Similarly, having pre-service teachers plan-for-mathematics teaching vis-à-vis the designated categories of the KQ occasions, Weston discovered, "lesson plans…[that] are much more focused on core mathematical ideas and more specific than plans [pre-service teachers] wrote prior to my integration of the KQ" (p. 81). Weston "[has] found the KQ to be both robust and novice-teacher friendly" (p. 81). Moreover, she observed that, via recurrent-intentional application, the KQ becomes pre-service teachers' default "conceptual basis" (p. 81) for mathematics pedagogy. Turner (2012), whose research is précised later, discovered likewise.

Flesvig et al. (2017) asked, "To what extent does using the KQ as an analytical tool influence what pre-service teachers…attend to in the analysis of their own mathematics

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[2] Weston's (2018) reversal of *Concentration on procedures*, which "identifies a teacher's disadvantageous emphasis on procedures rather than on developing conceptual understanding of the underlying concept. Concentration on understanding labels the idea with a positive directive, paralleling other [categories]" (p. 77).

teaching?" (p. 3296). Mia and Nora, "two pre-service teachers in Norway [on] their third school placement" (p. 3296), each reported, during two interviews, their experience of using the KQ to reflect on the efficacy of some of their mathematics lessons. Both recognised that, by illuminating distinct matters regarding their *mathematics* pedagogy, KQ-mediated reflection clarified opportunities for purposeful development of mathematics SMK and PCK. Mia, particularly, found KQ-mediated reflection profitable, and reported her intention to continue using the KQ for lesson planning and review post-practicum. Nora, however, while acknowledging the potential usefulness of the framework, found the process of analysing her pedagogy via the optics of 20 categories burdensome, and preferred, instead, "the unstructured form of traditional review sessions" (p. 3302). Rowland (2013) observed that "a broad-brush approach to the four KQ dimensions often suffices in the teacher education context, and may even be preferable to detailed reference to constituent codes" (p. 38). Thus, Nora may have preferred – and, perhaps, benefitted more from – this 'broad-brush' style of KQ-mediated reflection, which involves "using the KQ in a more holistic and efficient way" (Flesvig et al., 2017, p. 3302).

KQ-mediated reflection, Cosgrove (2018) suggested, may reduce Mathematics Anxiety (MA), "[a]nxiety caused by doing mathematics or considering doing mathematics" (p. 1). Following a three-month-long intervention that involved four cycles of joint KQ-mediated reflection, two of three primary school teachers' measures of Mathematics Anxiety decreased. Of those two teachers, one demonstrated, also, a marked increase in measures of her general teaching efficacy and, moreover, mathematics teaching efficacy. That teacher reported, pre-intervention, of "being frightened of mathematics" (p. 4) and collapsing mentally when feeling pressured to perform mathematically; post-intervention, she reported the sense of relief that accompanied her developing SMK and PCK, and "enjoyed the experience" (p. 4) of joint KQ-mediated reflection. The cycles of reflection in which the

teachers participated focused on "critical incidents matched to KQ codes" (p. 3) which they had selected from video-recordings of their mathematics teaching. The teachers, Cosgrove stated, "claimed to have benefitted from [simply] watching their own teaching" (p. 5); however, consistent with Edwards-Groves' (2003) assertion, the value of watching their practice was magnified via application of the KQ, which enabled focused observation and dialogue. Moreover, joint refection was, Cosgrove also concluded, more profitable when 'done' with a mentor – a more knowledgeable other – than with a peer. Indeed, joint-reflection-with-a-mentor typified the initial phases of Turner's "[evaluation] of the Knowledge Quartet as a tool for the identification and development of teachers' SMK and PCK" (Turner & Rowland, 2011, p. 202): "the teachers and the researcher *collaborated* [emphasis added] to develop the mathematics teaching of the teachers" (Turner, 2012, p. 253). Reviewed hereunder, Turner's longitudinal study comprehensively tested assumptions-claims regarding the potential of the KQ to inform pedagogical reasoning and, hence, growth of teachers' mathematics content knowledge.

Built from data gathered from lesson observations, interviews and participants' reflective journals, Turner's (2012) case studies of four pre-service-then-early-career teachers – Amy, Jess, Kate and Lisa – illuminated the role of the KQ in these teachers' professional development over four years. The KQ was employed, regularly, by Amy, Jess, Kate and Lisa "as a framework for reflection" (p. 203), thus directing their attention and energies toward the content-specific aspects of their pedagogy, and thereby driving, Turner reported, development of their SMK and, particularly, PCK: "use of the Knowledge Quartet…had a positive influence on the development of the participants' content knowledge for teaching by focusing reflection on the mathematical content of their teaching" (p. 203). KQ-mediated reflection alerted Amy, Jess, Kate and Lisa to matters of content-specific practice, including, for example:

- within Foundation, the limits of their SMK, which they subsequently "attempted to rectify" (p. 207);
- within Transformation, the cogency-relevance of their demonstrations and examples;
- within Connection, "the connections [within and between lessons] they had made, or had missed, and…how these might be further developed to enhance learning" (p. 208); and
- within Contingency, their growing capacity to respond, 'in the moment', to students' misconceptions, and to harness-leverage opportunities for extension that students' comments presented.

Also, regular KQ-mediated reflection, Turner reported, gradually reshaped Amy, Jess, Kate and Lisa's conceptions of mathematics teaching. Whereas initially they held, overall, a "content-focused with an emphasis on performance" (p. 203) view of mathematics teaching, their pedagogy was, by study's end, more learner-focused and stressed, instead, conceptual understanding. Amy, Jess, Kate and Lisa openly recognised the merit of the KQ, acknowledging the framework supported focused reflection that catalysed development of their SMK, PCK and conceptions of mathematics teaching. Utilising the KQ was, they stated, helpful-practicable; moreover, it became, through repeated use, their default schema for planning for, and reflecting on, their teaching:

> I think the Knowledge Quartet has definitely improved my teaching. When I am planning, I draw on the four areas unconsciously criticising what I plan to do, often asking myself questions – 'Does that show what I want it to?' etcetera. (Jess, in Turner and Rowland, 2011, p. 210)

Flesvig et al. (2017), Cosgrove (2018) and, particularly, Turner (2012) substantiated Rowland et al.'s (2005), Rowland and Turner's (2007) and Abdulhamid and Venkat's (2013)

claims regarding the potential of the KQ to inform professional development-through-reflection. KQ-mediated reflection, Flesvig et al. reported, can reveal aspects of mathematics pedagogy-for-development. Cosgrove reported likewise, adding, moreover, that mentorship better facilitates development of SMK and PCK (and, therefore, reduction of Mathematics Anxiety). Turner's (2012) case studies of Amy, Jess, Kate and Lisa demonstrated that, in addition to being a serviceable tool for analysis of content-knowledge-in-practice, the KQ can, also, support teachers' development-enactment of (a) mathematics content knowledge and (b) views regarding the character-emphases of mathematics teaching.

Application of the KQ, the preceding demonstrated, can facilitate reflection on, and development of, pre- and in-service teachers' SMK and PCK for mathematics teaching at different phases of schooling, "and in diverse cultures" (Rowland, 2013, p. 40). Similarly, then, a Knowledge Quartet for English might offer teachers of that subject a convenient architecture by which to parse, and consider/develop, their content-specific pedagogy. The principal goal of this project is, therefore, to formulate a Knowledge Quartet for English, educed via rigorous testing of the current framework's applicability to content-specific pedagogy demonstrated by teachers of that subject. Thus, a question: *Will modifications to the KQ be occasioned by its application to content-specific pedagogy demonstrated by teachers of subject English?*

The framework has, already, been subject "to extensive 'theoretical sampling'…in the analysis of other mathematics lessons in England and beyond" (Rowland, 2013, p. 21). The KQ was formulated, originally, in 2002-2004 vis-à-vis mathematics pedagogy demonstrated by 12 pre-service primary (generalist) teachers completing a year-long Post Graduate Certificate in Education at Cambridge University, England. Thereafter, researchers began testing its applicability to numerous other "[mathematics] classrooms within and beyond the UK" (p. 21). Their studies confirmed the rigour-relevance of its content and, moreover,

further broadened its applicability by introducing new categories that captured previously undemonstrated pedagogical situations. Hereunder, the research that occasioned the inception-inclusion of these new categories is presented.

The *Knowledge Quartet* and Theoretical Sampling

"[E]mpirical knowledge can always be revised by further observation" (Mastin, 2008, n.p.). Rowland et al. (2005) adopted this fallibilist position re the KQ: the content and composition of the model is, they acknowledged, continually open to appraisal and modification via theoretical sampling. Indeed, widespread application of the KQ in the years following its introduction revealed shortcomings in the Cambridge team's original theory that were, thereafter, remedied.

Corcoran's (2007) KQ-mediated analysis of the pedagogy demonstrated by Máire (a pre-service teacher in Ireland) during a lesson on whole-number division illuminated a gap in the original theory that was, subsequently, filled by the addition of a new category to Contingency. During a question-answer exchange with a small group students, Máire reflected-in-action (Schön, 1983) (i.e., monitored and self-regulated her actions): upon realising that previous comments, questions and appraisals had inadvertently directed her students to the wrong division structure (partition instead of quotition), she acted contingently, rectifying her mistake by coordinating a stretch of dialogue that provoked a pedagogically important shift in the lexes and cognitive substance of the lesson. Máire's realisation of her error, and subsequent remedying thereof, was, Corcoran observed, uncaptureable by any of the categories within Contingency – which, as per its grounding in the original data, was concerned, only, with responses to *students'* insights and misconceptions. Thus, the category *Teacher insight* was added to Contingency to capture moments of teacher self-perceptiveness that motivate changes of pedagogical tack. Máire's insight, Rowland (2007) acknowledged, "[was] an instance where theoretical

sampling…found the current theory wanting, and caused it to be rethought and enhanced" (p. 22). Other categories have been added to the KQ to remedy shortcomings exposed via further theoretical sampling.

Petrou (2008, 2010) was first to apply the KQ in a non-UK setting, using the framework to describe-analyse the mathematics pedagogy demonstrated by five Cypriot pre-service primary teachers. Contextual disparity was, from the outset, recognised: Petrou "assumed…the knowledge used by Cypriot and English teachers is [not] the same" (2010, p. 2023) and, as such, asked "[to what extent] the original conceptualisation of the Knowledge Quartet [would be] relevant and adequate in the analysis of teaching in the Cypriot primary mathematics classroom" (p. 2021). Overall, the KQ was, she found, a "valid tool" (p. 2024) for analysing-classifying the demonstrated mathematics pedagogy: "The Knowledge Quartet proved to be comprehensive in describing *most* [emphasis added] of the teaching episodes that were considered important for the purposes of my study" (p. 2023). Petrou determined, however, that situations involving *adaptation* of textbook material were uncaptureable by the original framework. Whereas the category *Adherence to textbook* (in Foundation) applied to occasions wherein the teachers accepted the textbook[3] as the authority on what and how to teach, situations wherein they adapted and/or supplemented textbook content to suit/achieve specific pedagogical ends were, she found, uncodeable: none of the existing categories applied to that variety of pedagogical activity. This, Petrou argued, "[was] not surprising" (p. 2024), since the KQ was developed with reference to, and reflected, the pedagogy of the UK primary mathematics classroom, where "the use of textbooks is not a common practice" (p. 2024). In Cyprus, however, "the textbook is central and always present in the mathematics classroom" (p. 2024). For each of the pre-service teachers in Petrou's study, the centrally

[3] Refers to the centrally developed/mandated student book and teacher guide used daily in Cypriot classrooms.

developed/mandated textbook was, expectedly, the principle reference-resource for planning and teaching; however, all adapted and augmented its content to suit their instructional needs. Petrou, therefore, "suggest[ed]…the KQ…be supplemented in order to incorporate [this manifestation of PCK]" (p. 2020). She introduced a fourth category to Transformation: *Use of instructional materials* captures teachers' use (including selection, modification, development, coordination and application) of resources (e.g., manipulatives, textbooks, worksheets, etc.) to support learning.

Thwaites et al. (2011) "test[ed] the 'fit' of the KQ to secondary mathematics teaching" (p. 227) vis-à-vis the pedagogy demonstrated by three pre-service secondary mathematics teachers, each of whom volunteered to have two 'project' lessons observed and video-recorded by a member of the research team. Preliminary KQ-mediated analysis of the video-recordings revealed key pedagogical episodes that, later, "framed…stimulated-recall interview[s]-discussion[s] with the trainee teacher[s]" (p. 227). Thereafter, the KQ-mediated scrutiny of the interview-discussion transcripts and lesson video-recordings included "sensitivity to the possible absence of existing codes to capture events in these secondary mathematics contexts" (p. 227). Analysis of pedagogy demonstrated by John during a lesson with "a high-attaining Year 9 (ages 13-14 years) class" (p. 227), revealed a prospective new code (category). The bulk of the pedagogy demonstrated by John (and the other two teachers) was, Thwaites et al. found, readily mappable to the content of the KQ, thereby demonstrating the framework's potential "as an analytical tool in the secondary context" (p. 228). However, a circumstance that arose-transpired during the latter phase of John's lesson prompted Thwaites et al. "to consider whether we have here a situation, with related demands on the teacher's mathematics-related knowledge, which had not come to our attention earlier, in the primary data" (p. 228). Graph-drawing software that "John had planned to use…as a…tool" (p. 227) to facilitate students' "inductive, inquiry-based" (p. 227)

learning/understanding of "sketching the graphs of quadratic functions" (p. 227) failed to activate and project to the interactive whiteboard (IWB), prompting John to recourse, instead, "to a more deductive exposition…using the whiteboard" (p. 228). Consequently, Thwaites et al. proposed an additional category: in Contingency, *Responding to the (un)availability of tools and resources*, which captured John's rapid – and cogent – pedagogical 'rejoinder' to the failure of the graph-drawing software to activate and project to the IWB.

The full volume of theoretical sampling to which the KQ has been exposed is demonstrated at www.knowledgequartet.org, the online, freely available KQ coding manual that was launched in 2012 and whose content has been "in continuous development" (Weston & Rowland, n.d., para. 11) ever since. The team of contributors to www.knowledgequartet.org includes, currently, researchers from Europe and North America who are "familiar with the KQ and [have] used it in their own research as a framework with which to observe, code, comment on and/or evaluate primary and secondary mathematics teaching" (Rowland, 2013, p. 39). Each, as Weston, Kleve and Rowland (2013) recounted, "individually examined their data" (p. 181), identifying a prototypical instance of each of three (or more) KQ categories, then drafted a written account of each scenario and, also, a commentary that "analysed the excerpt and explained why it [was] representative of the particular code" (p. 181). The 50+ descriptive-analytical vignettes were later posted to www.knowledgequartet.org to exemplify – and, thereby, support consistency of interpretation of – the content of the KQ. Indeed, Ruthven (2011) had cautioned that, in synthesising the 20 categories of the KQ into "a more discursive set of superordinate categories [i.e., four dimensions]" (p. 85), the Cambridge team had opened the framework to substantial interpretive flexibility. Likewise, Weston and Rowland (n.d.) admitted that "participants often conceptualise one or more of the dimensions of the KQ in ways that differ from the understandings shared within the research team which conducted the classroom-based

research leading to its development and conceptualisation" (para. 6). Similarly, some researchers have "simply seemed to make up the meanings of the dimensions!" (T. Rowland, personal communication, June 8, 2017). Thus, www.knowledgequartet.org was developed to establish more precise/uniform understanding of the KQ.

The vignettes at www.knowledgequartet.org demonstrate, also, the comprehensiveness of the current iteration of the KQ: the framework, they illustrate, is *widely* applicable, relevant to primary and secondary mathematics teaching across various countries, mathematics curricula and pedagogies. Rowland (2013): "[T]he KQ [is] *comprehensive* [emphasis added] as a tool for thinking about the ways that content knowledge [for mathematics teaching] comes into play in the classroom" (p. 21). Nevertheless, development thereof continues: Weston (2013), for example, explored the possibility of incorporating a system for evaluating the quality of demonstrated categories of mathematics pedagogy.

Ongoing development of the *Knowledge Quartet*

The KQ was developed to parse mathematics pedagogy and shape "'knowledgeable-other' analysis and formative feedback" (Rowland, 2013, p. 37) to focus pedagogical reasoning and motivate growth of particular subject-specific knowledge-for-teaching. Using the framework to openly judge the quality of mathematics pedagogy was *not* the Cambridge team's intention. Even so, Rowland (2013, p. 40) observed that:

> [i]t would be naïve…to suggest that the mentor, or teacher educator, makes no evaluation of what they observe. Indeed, the observer's evaluation is likely to be a key factor in the identification and prioritisation of the discussion points. In post-observation review, it is expected that the 'more knowledgeable other' will indicate what the novice did well, what they did not do and might have,

and what they might have done differently. The KQ is a framework to organise such evaluative comments, and to identify ways of learning from them.

Weston (2013), however, explored the viability of a supplemented version of the KQ that enabled evaluation-quantification of the quality of demonstrated categories of mathematics pedagogy. She elaborated the affordances of the framework by developing-incorporating a protocol – albeit unvalidated – by which the *quality* of demonstrated categories of pedagogical activity might be evaluated and coded. According to criteria related to accuracy (e.g., of the teacher's use of mathematical terminology) and degree of teacher-solicited student engagement, or 'press' (Brodie, 2010; e.g., via questioning), the quality of KQ-defined categories of pedagogy demonstrated by four pre-service teachers was rated *minimum*, *middle* or *maximum*. The resulting data, Weston found, were variously combinable/synthesisable, thus providing a range of potentially helpful representations of the quality of the pedagogy demonstrated by the pre-service teachers vis-à-vis the dimensions and categories of the KQ. Weston acknowledge that "the exploratory nature of [her] study" (p. 301) limited the veracity of the findings. She concluded, nevertheless, that expanding the affordances of the KQ by "[adding] a coding protocol by which to quantify [the efficacy] of…teachers' [mathematics pedagogy]" (p. 301) was activity worth undertaking.

Of course, making judgements about the quality of categories of pedagogical activity according to the presence/absence, amount or quality of specific dimensions thereof, is problematic: does maximum accuracy and maximum press, for example, *guarantee* learning, and to what degree? Amount and quality of *learning* must, surely, be a measure of the quality of pedagogy? Thus, to bolster validity and reliability of judgement of pedagogical quality, students' ratings/reports of the perceived efficacy of pedagogical activity would, perhaps, be valuable. Indeed, Maher, Muir and Chick (2015) concluded that "student perspectives on the useful ways teachers transform mathematics knowledge for learning can

provide insight into their teachers' PCK. Future study that investigate[s] teachers' perspectives of effective PCK and compares it with students' perspectives would be useful" (p. 232). Maher (2019) pursued this line of inquiry in the context of her doctoral work: she used the KQ to parse observed Year 11-12 mathematics pedagogy and, then, select instances of categories of practice to open to assessment-of-efficacy by the teacher *and* his/her students. She concluded that "teachers made pragmatic decisions about what to teach and how to teach it. … [T]hey avoided addressing the deeper conceptual underpinnings of mathematics in favour of solving standard text-book questions. The students noticed and appreciated aspects of their teachers' PCK, particularly those relating to explicating the steps involved in completing these questions" (p. 3).

The *Knowledge Quartet*: A Summary

The original 17-category *Knowledge Quartet* (KQ) was introduced by the Cambridge team 15 years ago (Rowland et al., 2005), the product of a three-years-long endeavour "to identify, and to understand better, the ways in which elementary teachers' mathematics content knowledge, or lack of it, [was] evident in their teaching" (Rowland, 2008, p. 275). Rowland (2008) described the KQ as "an empirically-based conceptual framework for [mathematics] lesson reviews" (p. 286), the Cambridge team's construct having been formulated via analysis of mathematics pedagogy demonstrated by 12 pre-service primary (generalist) teachers completing a year-long Post Graduate Certificate in Education at Cambridge University, England. Rowland et al. (2005) claimed the potential of the KQ to shape "'knowledgeable other' analysis and formative feedback" (Rowland, 2013, p. 37) that provoked focused pedagogical reasoning and, thereby, growth of PCK for mathematics teaching. Their claim was tested and verified (e.g., Cosgrove, 2018; Flesvig et al., 2017; Turner, 2012; Weston, 2018). The KQ is, therefore, a theoretical loop (Skott, 2006). Researchers have tested the KQ's applicability to numerous other "[mathematics] classrooms

within and beyond the UK" (Rowland, 2013, p. 21), their studies corroborating the veracity of the framework's content and, moreover, broadening its validity by introducing new categories vis-à-vis previously undemonstrated pedagogical situations (Corcoran, 2007; Petrou, 2009; Thwaites et al., 2011). And while researchers continue to expand the affordances of the KQ vis-à-vis mathematics pedagogy (e.g., Maher, 2019; Weston, 2013), the applicability of the framework to *other* subjects, including English, is yet to be investigated.

A *Knowledge Quartet* for Subject English

Rowland (2013) noted that "some teacher education colleagues working in subjects other than mathematics – such as language arts, science and modern foreign languages education – have seen potential in the KQ for their own lesson observations and review meetings. They sometimes ask whether they could adapt and adopt the KQ for their own purposes" (p. 40). Hitherto, however, the KQ has *not* been adapted to and adopted within any subject discipline beyond mathematics; certainly, the researcher was unable to locate any scholarly literature describing such effort. Hence, the project constitutes, to the best of his knowledge, the first attempt to test the extent of applicability of the KQ to an epistemological-pedagogical context beyond that wherein it was originally developed.

Underpinning the research is Rowland's (2013) question: "[C]an a framework for knowledge-in-teaching developed in one subject discipline be legitimately adopted in another?" (p. 40). Shulman (1986) observed that "[i]n the different subject matter areas, the ways of discussing the content structure of knowledge differ" (p. 9). Mathematics is based on, and concerned with, a body of knowledge that is more: (a) objectively knowable; (b) generated and tested according to principles and processes of rational inquiry; and (c) systematised, organised and exact (Dossey, 1992; Richland, Stigler & Holyoak, 2012). Much of subject English, by contrast, is based on, and concerned with, a body of knowledge that is:

(a) more subjectively knowable; (b) periodically redefined by "a new set of speakers" (Bernstein, 2000, p. 162) or 'knowers' (Maton, 2009, 2010); and (c) approximate, fluid and, even, contested. Indeed, Grossman (1987) described English as "an inherently ambiguous subject, which is less hierarchically organised than is math" (p. 7). Thus, 'learning, knowing and doing' in English is different to 'learning, knowing and doing' in Mathematics – implying, therefore, that English and Mathematics teachers' pedagogies will vary: "[l]earning and instruction are domain specific…the structure and syntax of the subject affect instructional processes and necessitate specific teacher expertise" (Baumert et al., 2010, p. 165).

The KQ was developed in the context of mathematics instruction, the substantive and syntactic structures of the underlying body of knowledge – or, at least, teachers' comprehension thereof – having occasioned the expressions of SMK and PCK subsequently captured by the framework. That is to say, the epistemological-pedagogical context wherein the KQ was developed was particular. Hence, the process of testing the extent of its applicability to a *different* epistemological-pedagogical context might occasion opportunities to reconceptualise and reorganise the content of the framework. As Rowland (2013) asked: "[W]hat might the conceptualisations of the dimensions of the KQ…look like in another discipline?" (pp. 40-41). Appreciation of disciplinary knowledge, Baumert et al. (2010) intimated, is prerequisite to recognising expressions of SMK and PCK that derive therefrom. As such, an account of the scope and nature of the content of subject English is, hereunder, presented

Subject English

The brief, disquieted history of subject English within Western-Anglophone school curricula has been thoroughly rehearsed (e.g., Applebee, 1974; Brass, 2013; Goodson & Medway, 1990; Protherough & Atkinson, 1994; Stevens & McGuinn, 2004). Following

Newbolt's (1921) formative work, the fledgling subject gradually assumed centrality amid curricula, its boundaries-purview continually expanded to address imperatives related to vocational/neo-classical, liberal/progressive and socially-critical discourses of education (Mathieson, 1975; Kemmis, Cole & Suggett, 1983; Peel, Patterson & Gerlach, 2000). The "valued knowledge" (Macken-Horarik, 2011, p. 198) of English has, consequently, grown remarkably diffuse (Applebee, 1974; Grossman & Shulman, 1994). Intimating the burgeoning heterogeneity of English, the Dartmouth Seminar of 1966 "opened with the provocative statement that English has no content" (Dixon, 1967, p. 72). Later, Rosen (1981) questioned the 'disciplinarity' of English, claiming "it is the least subject-like of subjects" (p. 5). The Department of Education and Science (1975) concurred: subject English "does not hold together as a body of knowledge which can be identified, quantified, then transmitted" (p. 5). Similarly, Peel, Patterson and Gerlach considered English "not so much an identifiable field of study" (p. 18) but, rather, "a range of practices which contribute to the formation of a particular kind of person that societies have found they need, and which English is able to help produce" (p. 18).

Indeed, identifying "the essential understandings that students require at each stage of schooling" (Jones & Chen, 2012, p. 147) is "an enduring [issue] for each subject-matter domain of the school curriculum" (Grossman & Shulman, 1994, pp. 3-4). As Macken-Horarik (2011) asked, though: "[W]hat happens when 'knowers' – teachers, teacher educators and academics – cannot agree about 'what counts' as valued knowledge in a discipline?" (p. 198). The history of English is characterised by steady, sometimes heated, contestation re the subject's purposes and 'valued knowledge', as varying conceptualisations (of English) competed for stakeholder, and curriculum, recognition (Misson, 2012). Indeed, Bernstein (2000) observed that, unlike other curriculum domains – particularly Mathematics and Science – whose content derives from, and reflects, a coherent body of knowledge

developed-elaborated via recognised methods of inquiry, English expands, instead, via the periodic addition of "[a] new language [that] offers the possibility of a fresh perspective, a new set of connections…an apparently new problematic, and most importantly a new set of speakers" (p. 162). Similarly, Misson (2012) observed that "English…constantly needs to re-invent itself to stay in touch with the times and the current needs of students" (p. 27). Periodic renewal of English has occasioned, Cox (1989) reported, coexisting models thereof, each differentially prioritised by individual teachers:

> It is possible to identify within the English teaching profession a number of different views of the subject. We list them here, though we stress that they are not the only possible views, they are not sharply distinguishable, and they are certainly not mutually exclusive: A "personal growth" view…An "adult needs" [or skills] view…A "cultural heritage" view…A "cultural analysis" view. … Teachers of English will differ in the weight they give to each of these views of the subject. (p. 60)

Similarly, Macken-Horarik (2014) acknowledged "the enduring relevance of [these] four models of [English]" (p. 7). Others, too (e.g., Barnes, Barnes & Clarke, 1984; Christie et al., 1991; Elbow, 1990; Freebody, 2013; Goodwyn, 2003; Green & Cormack, 2008; Sawyer, 2005; Thomson, 2009), have recognised their presence/relevance. The following précis of each model draws, predominantly, on Macken-Horarik (2014).

The *Skills* model of English. The focus of this model of English is development of students' macro-skills as readers, writers, speakers and listeners. Functionally-oriented and, largely, outward-looking (Cox, 1989), its *raison d'être* is expansion-improvement of students' communicative proficiency. "[C]ompetence…is the source of [its] epistemological validity" (Macken-Horarik, 2014, p. 10). *Skills* is conceived, sometimes, as decontextualised exercises in spelling, punctuation and the rudiments of sentence-level grammar, and/or

programs of 'everyday' or 'workplace' English. Richer conceptualisations "relevant to larger preoccupations of English" (p. 12) are, however, possible – and common. Fuller versions of *Skills* utilise, often, the authoritative pedagogy of the genre-based approach to English/literacy instruction, wherein the reading and writing of various text-types is made visible and attainable to students via explicit induction (Martin, 1992, 1999). Herein, the teacher-student relationship echoes that of master-apprentice, and learning-performance is scaffolded within the context of the Gradual Release of Responsibility model (Pearson & Gallagher, 1983; Rothery, 1994). When deployed in the service of, and contextualised by, other models of English, *Skills* proves to be "immensely helpful [to students, who] can more easily see the point of work on conventions of reading and writing" (Macken-Horarik, 2014, p, 12). As Doyle, Te Riele, Stratford and Stewart (2017) stated, "the acquisition of skills is important" (p. 4).

The *Cultural Heritage* model of English. "[Culture is] the best which has been thought and said" (Arnold, 1869, p. viii). Traceable to Arnold, *Cultural Heritage* conceives of subject English as a civilizing and culturally unifying influence, achieved by inaugurating students into the "humane letters" (Sampson, 1922, p. 29), the literary canon. Traditional and contemporary literature – including novels, plays, poems, films and, even, websites – "constitutes the field of study" (Macken-Horarik, 2014, p. 10) and "is a key source of epistemological validity" (p. 10). Assuming the role of 'cultural mentor', the teacher inducts, often implicitly, his/her students into the artistic and intellectual merits of "those works of literature that have been widely regarded as amongst the finest in the language" (Cox, 1989, p. 60). Privileged in examinations, *Cultural Heritage*, Macken-Horarik observed, is the conduit "to senior English and later academic study" (p. 10), as students learn to "[read] and [write] their way into literate textuality" (p. 10).

The *Personal Growth* model of English. *Personal Growth* renewed subject English by emphasising process over content: under this conceptualisation, English is activity – something practised, not studied. Common throughout Australian primary and secondary classrooms by the 1980s, this child-centred, 'humanistic' model of English is based, epistemologically, on the validity of personal engagement, including self-knowledge and subjective understanding – which, as Macken-Horarik (2014) observed, is "often class-regulated" (p. 9). All students, Dixon (1967) and Britton (1970) contended, should be recognised in curricula and classrooms. Thus, students' personal experiences and active use of language were claimed as principal concerns of English, and personal response pedagogy – "in which the child is freed to be most natural" (Patterson, 1993, p. 61), expressing his/her "'inner self'…within the parameters of a collaborative, non-coercive teacher-child relationship" (p. 62) – was championed as the means of connecting with, and engaging, an increasingly diverse student population, including a growing corpus of reluctant readers. The *Personal Growth* model of English encourages students to express, reflect upon, order and comprehend their experiences of the world, and to clarify the personal-interior (Crawford, 1998; Freebody, 2013): "we have to make our classrooms places where pupils want to talk and write from [personal experiences]" (Dixon, 1967, p. 6), giving "meaning and order to the flux and fragments of reality" (p. 8) and "bring[ing] order and composure to [their] inner selves" (p. 20). Similarly, in the *Personal Growth* classroom, "[r]eading offers a journey into self-knowledge and experience and the subjective response to a text is a key concern" (Macken-Horarik, p. 10).

The *Cultural Analysis* model of English. Negotiating the ideological contexts of the production and interpretation of an eclectic range of texts "is a major source of [the] epistemological validity [of this model of English] (Macken-Horarik, 2014, p. 11). Common to Australian classrooms by the 1990s (Misson, 2012), *Cultural Analysis* recognises the

'social constructedness' of knowledge and, moreover, that "all knowledge…[is] enmeshed with the value systems of the knowers" (Macken-Horarik, 2014, p. 10). As Grossman and Shulman (1994) observed, "no text loses all vestiges of its genesis" (p. 7). Language, Misson (2012) observed, "is a social phenomenon, and therefore bound to the social context in which it is produced and the context in which it is being read or listened to. It is suffused with social meaning, necessitating the development of critical skills" (p. 28). Texts, *Cultural Analysis* asserts, embody-foreground the 'common sense' knowledge-values of their producers, thus offering partial-interested versions of the world. Via the methods of critical literacy – which includes, importantly, a democratic-reciprocal teacher-student relationship (Macken-Horarik, 2014) – the knowledge-values (i.e. ideological) bases of textual 're-presentations' are presented for critique, and the social consequences of texts recognised and challenged: students are "help[ed]…towards a critical understanding of the world and cultural environment in which they live" (Cox, 1989, p. 60) and, moreover, "to act positively in it and on it" (Misson, 2012, p. 34). Motivated by a social justice agenda, the understanding-action nexus, ideally, dissolves: the 'right' understanding implies the 'right' action. Thus, students might practise their "ontological vocation" (Freire, 1970, p. 75) – to "[become] aware of [their] agency to choose and create [their] reality" (Díaz, n.d., para. 44).

Each of these models of English finds expression, to varying degrees, amid the organising strands of the *Australian Curriculum: English* (ACARA, 2016a). *Curriculum knowledge* (CK) is among the bodies of subject-specific knowledge-for-teaching identified by Shulman (1987); moreover, CK is considered, by some theorists, a component of PCK (see Table 3). Thus, as the curriculum context-knowledge for the pedagogy that is the focus of this research, the *Australian Curriculum: English* is, hereunder, précised.

The *Australian Curriculum: English*

The amalgam of circumstances that motivated the development of the *Australian Curriculum* (ACARA, n.d.[a]) has been related elsewhere (e.g., ACARA, 2012b; the Ministerial Council on Education, Employment, Training and Youth Affairs [MCEETYA], 2008; Reid, 2018; Rudd & Smith, 2007; Toner, 2011), while the multi-stage development, and final make-up, of the *Australian Curriculum: English* (ACARA, 2016a) has been described by ACARA (2012a, 2013), and appraised by others (e.g., Doecke et al., 2018; the English Teachers' Association NSW, 2008, 2009, 2010; Forrest & Schodde, 2014; Macken-Horarik, 2011). Implemented from 2012, the *Australian Curriculum: English* includes 364 content descriptions that, from Foundation Year to Year 10 (F-10), designate "what is to be taught and what students are expected to learn" (ACARA, n.d.[a], para. 11). Ball (1988) remarked that "[k]nowledge of [subject] is basic to being able to help someone else learn it" (p. 12). Thus, the content descriptions indicate, too, the spectrum of SMK needed by teachers to teach subject English in Australian primary and secondary classrooms. ACARA (2016a) recognised the scope and value of each model of English, stating "[e]ach …contributes…its own distinctive goals, body of knowledge, history of ideas and interests, and…material worth studying in its own right" (p. 9). That multiplicity of emphases and subject matter is reflected amid the 360+ content descriptions, which themselves populate the organisational strands and sub-strands of the *Australian Curriculum: English*. The strands and sub-strands form the basis of "an integrat[ed] framework of disciplinary knowledge" (p. 7) that "support[s] students' growing understanding and use of Standard Australian English" (p. 7). Table 5 provides an overview of the content and structure of the *Australian Curriculum: English*, summarising the instructional emphasis of each of the main strands – Language, Literature and Literacy – and, also, cataloguing the sub-strands and number of content descriptions that appear within each from F-10.

Table 5

Overview of the content and structure of the Australian Curriculum: English

	Strands		
	Language	**Literature**	**Literacy**
	Developing knowledge about the English language *per se*, particularly its 'systemness': phoneme-grapheme relationships and spelling (including etymology); punctuation; grammar (sentence-level+); register; developing a metalanguage; the origins, ongoing evolution, and variability of English.	Developing an informed appreciation of, and living vicariously through, literature: exploring the human condition (including self) and different perspectives and possibilities by studying and creating literary texts; appreciating the aesthetic potential of the English language.	Developing-expanding the repertoire of English usage: learning to successfully utilise the English language, in all its modes (including multimodally), for a growing range of purpose across multiple contexts; developing knowledge and skills for comprehending texts.
Sub-strands and number of content descriptions (CDs) F-10*	Language variation and change CDs F-10 *n* = 11	Literature and context CDs F-10 *n* = 12	Texts in context CDs F-10 *n* = 11
	Language for interaction CDs F-10 *n* = 23	Responding to literature CDs F-10 *n* = 26	Interacting with others CDs F-10 *n* = 33
	Text structure and organisation CDs F-10 *n* = 40	Examining literature CDs F-10 *n* = 26	Interpreting, analysing and evaluating CDs F-10 *n* = 37
	Expressing and developing ideas CDs F-10 *n* = 49	Creating literature CDs F-10 *n* = 23	Creating texts CDs F-10 *n* = 41
	Phonics and word knowledge CDs F-6* *n* = 32		
	Total CDs *n* = 155	Total CDs *n* = 87	Total CDs *n* = 122

* The sub-strand *Phonics and word knowledge* and its 32 content descriptions applies, only, to years F-6.

According to ACARA (2016a), "[e]ach strand [of the *Australian Curriculum: English*] interacts with and enriches the other strands in creative and flexible ways" (p. 7):

> Teaching, learning and assessment programs should balance and integrate the three strands to support the development of knowledge, understanding and skills. The key focal point for a unit of work or a learning activity may arise from any one of the strands, but the intention is that units and activities draw on all three strands in ways that are integrated and clear to learners. (p. 7)

Here, the notion of 'an enacted curriculum' emerges (Luke, 2010). Teachers, as Churchill et al. (2011) contended, are "critical consumers and creators of curriculum" (p. 189): they filter, shape and re-present the content of curriculum documents according to preference and interpretation, pedagogical intent, and contextual factors (Brady & Kennedy, 2010; Jones & Chen, 2012). Thus, "[t]he curriculum is that which students experience in the learning environment" (Grundy, 1987, p. 42). The sheer breadth of territory encompassed by the *Australian Curriculum: English* (ACARA, 2016a) alone invites professional autonomy: "teachers [must] necessarily select the purposes and areas they plan to emphasise in their classrooms" (Grossman, 1987, p. 7). What informs these choices, though? Macken-Horarik (2011) observed that "[w]hat 'counts' as knowledge, know-how and as cumulative learning is always going to be a matter of *professional judgement* [emphasis added]" (p. 199). Professional judgement, however, is based in, and reflects, profounder matters – as Grossman and Shulman (1994) recognised: "In order to make informed curricular decisions, in order to decide to exploit one aspect of the 'curriculum potential' of English rather than another, teachers rely on their own *understandings and beliefs about the nature of the discipline* [emphasis added]" (p. 5). Thus, a question emerges: *If the* Australian Curriculum: English *represents diverse perspectives regarding the character-purpose of listening/reading/viewing and speaking/writing/creating, and teachers approach that heterogeneity according to certain dispositions and experiences (both their own and their students'), what, then, does it mean "to know English…to teach it?"* (p. 6). A variation of Grossman and Shulman's question, presented shortly, underpins this project.

The *Knowledge Growth in Teaching* project (e.g., Shulman & Grossman, 1987) and, thereafter, profuse body of research stimulated by Shulman's formative work, concluded that:

1. SMK matters: what teachers know about their subject affects, for example, their organisation of curricula, planning, selection-adaption of resources, and interactions with students;
2. SMK alone ≠ effective teaching: having disciplinary knowledge ≠ knowing *how* to teach that content to a heterogeneous group of students within a given context;
3. PCK interacts with other domains of knowledge necessary for teaching; and
4. context matters: teachers' knowledge-for-teaching is "situated in the contexts of its use" (Grossman & Shulman, 1994, p. 13).

Regarding point 4, Hegarty (2000) argued that knowledge-for-teaching is constructed-represented *during* teaching, the corollary of relevant propositional- and case-based PCK being mobilised vis-à-vis novel/tentative conditions. Accepting Hegarty's position – and sceptical, too, of the value of proclamations of best practice – the Cambridge team sought, consequently, to capture 'what happened' when propositional- and case-based PCK intersected with, and was enacted in, context. Thus, the KQ elucidates *in vivo* manifestations of propositional- and case-based PCK, cataloguing the range of circumstances wherein mathematical knowledge-for-teaching is strategised – that is, "surfaces *in* [emphasis added] teaching" (Turner & Rowland, 2011, p. 196).

Grossman and Shulman (1994) asked, "[W]hat does it mean to know English…to teach it?" (p. 6). Their question might be restated as, "What might PCK for subject English look like?" Or, given the content of the preceding paragraph, "What might PCK for subject English, as demonstrated *in* teaching, look like? This finessed version of Grossman and Shulman's question underpins the current research. The principal aim of the project, however, is *not* to seek and submit answers to that question but, rather, to posit a framework by which it might be investigated. Even so, in the process of developing an empirically-

based *Knowledge Quartet – English* (KQ-E), answers to that question will emerge. The project will indicate, also, the potential of a KQ-E to facilitate pedagogical reasoning.

As this Literature Review draws to a close, a pertinent question arises: Have any frameworks for lesson observation *specific to the pedagogy of the whole of subject English* already been developed? The likely answer: Yes, one. Hereunder, then, the penultimate section of the Literature Review describes Grossman et al.'s (2009) *Protocol for Language Arts Teaching Observation* (PLATO). A thorough search of scholarly literature indicated that PLATO is, it seems, the only extant framework-for-lesson-observation/analysis specific to the pedagogy of the whole of subject English. As the sole instance of such a framework, its materiality re the current project is magnified, occasioning questions such as: *What does PLATO look like? What does it 'say' about the pedagogy of subject English? To what extent might it inform the development of a KQ for English?* Hereunder, PLATO is presented.

The *Protocol for Language Arts Teaching Observation* (PLATO)

First presented by Grossman et al. (2009), PLATO is an empirically-tested/refined (e.g., Grossman, Loeb, Cohen & Wyckoff, 2013; Cor, 2011) "classroom observation protocol designed to capture features of English/Language Arts instruction" (CSET, 2013, para. 1). Unlike systems that address, only, the pedagogy of a single content domain of English – for example, reading (e.g., Hoffman, Sailors, Duffy & Beretvas, 2004; Taylor, Pearson, Peterson & Rodriguez, 2005) – PLATO can be applied to, and capture, the pedagogy of any of the multiple content domains of English – and, moreover, is agnostic re the models thereof. PLATO, Grossman et al. (2013) stated, "builds on existing observation tools and research on effective teaching practices in [English] in an attempt to parse the different facets of teaching practice in…[English] classrooms" (p. 450). Like Rowland et al.'s (2005, 2009) KQ, PLATO was developed, originally, for academic purposes (e.g., Cohen & Grossman, 2011; Grossman, Cohen & Brown, 2015), then later utilised in programs of teacher professional

development (e.g., Cohen, Schuldt, Brown & Grossman, 2016; Grossman, n.d.). PLATO, too, is "organised into" (Grossman, Cohen & Brown, 2015, p. 305) four principal constructs: (1) *Disciplinary and cognitive demand of classroom talk and activity*; (2) *Representations and use of content*; (3) *Instructional scaffolding*; and (4) *Classroom environment*. Each of these constructs, then, encompasses two, three or four of "thirteen elements of high-quality teaching in English" (p. 305). Developed amid the context of Obama-era education policies wherein evaluation of teacher effectiveness was central (e.g., *Investing in Innovation*, *Race to the Top*), PLATO includes, also, a validated rubric for scoring, at 15-minute intervals, the teacher's demonstration of one or more of the 13 elements of English instruction (CSET, 2013): a score of 1, the lowest possible score, indicates minimal (or no) evidence of instructional practice related to the focus elements during the 15-minute cycle; a score of 4, the highest possible score, indicates consistently strong evidence. PLATO may be administered, only, by expressly trained-credentialed observers. Hereunder, an overview of the fifth (most recent) iteration of PLATO is presented.

Table 6

The four underlying constructs and 13 elements of Grossman et al.'s (2009) PLATO

Underlying construct	Element	Description of element
Disciplinary and cognitive demand of classroom talk and activity	Purpose	The expressed clarity of [English] objectives, both in the short and long term.
	Intellectual challenge	The intellectual rigour of the activities in which students engage.
	Classroom discourse	The opportunity for, and quality of, student conversations with the teacher and among peers.
	Text-based instruction	How grounded [English] instruction is in a variety of texts, as well as the degree to which students are asked to generate their own texts.
Representations and use of content	Representations of content	The richness, accuracy and clarity of the teacher's explanations and examples.
	Connections to prior academic knowledge	The extent to which new material is connected to students' previous academic knowledge.
	Connections to personal and cultural experience	The extent to which new material is connected to students' personal and cultural experiences.
Instructional scaffolding	Strategy use instruction	The teacher's ability to teach [English] strategies that can be used flexibly and independently.
	Models and use of models	The degree to which a teacher visibly enacts strategies, skills, and processes targeted in the lesson to guide students' work before or while they complete the task; the extent to which they are analysed or not; and whether they are used to illustrate for students what constitutes good work on a given task.
	Guided practice	The quality of feedback provided in response to student application of [English] skills, concepts or strategies.
	Accommodations for language learning	The range of strategies and supports that a teacher might use to make a lesson accessible to non-native English speakers.
Classroom environment	Behaviour management	The degree to which behaviour management facilitates academic work.

	Time management	How well-paced tasks and transitions are in the classroom.

PLATO (Grossman et al., 2009) pertains, principally, to teachers' actions; unlike the KQ, however, it concentrates, also, on student engagement. When scoring *Strategy use instruction*, for example, the observer-rater must attend to (a) whether the teacher prompts students to apply previously-taught strategies *and* (b) the extent to which students then utilise those strategies. Moreover, components of PLATO – namely, the construct *Classroom environment* and its constituents *Behaviour management* and *Time management* – address non-content-related aspects of pedagogy. The KQ, however, concerns *only* PCK: "the KQ is deliberately limited to discipline-based [pedagogy]" (T. Rowland, personal communication, May 1, 2017). The remaining three constructs and 11 elements of PLATO all pertain to content-related pedagogy. Indeed, the spectrum of domains of content-related pedagogy encompassed by PLATO parallels, somewhat, the span covered by the KQ: both frameworks address purpose, representations of content, and connections to prior academic knowledge. Vis-à-vis the KQ, the domains of content-related pedagogy distinctive to PLATO are: *Intellectual challenge*; *Classroom discourse*; *Text-based instruction*; *Connections to personal and cultural experience*; *Strategy use instruction*; *Models and use of models*; *Guided practice*; and *Accommodations for language learning*. Like many of the subcategories of the KQ, however, most – perhaps all – of these elements could, conceivably, apply to/capture the content-related pedagogy of many other school subjects. Indeed, whereas CSET (2013) described PLATO as "a classroom observation protocol designed to capture features of *English* [emphasis added]…instruction" (para. 1), the protocol was, in fact, modified by Cohen (2015) "for reliable scoring of [the] math teaching" demonstrated by "103 fourth grade teachers from a single district who volunteered to have their classroom instruction recorded as part of the…Measures of Effective Teaching (MET) project" (p. 1). All of the

content of PLATO save *Text-based instruction* was, her study confirmed, applicable to mathematics teaching. She noted, however, that teachers' efforts to (a) develop students' conceptual understandings of topics and (b) orchestrate classroom discourse were few and, moreover, largely unproductive, with "very few instances of high-scoring instruction [of this kind]" (p. 1). Kloser (2014) surmised the applicability of PLATO to science teaching and, thereafter, facilitated the development of a catalogue of "core science teaching practices" (p. 1197) that, in number, foci and nomenclature, parallel, appreciably, those within PLATO.

The conceivable and demonstrated applicability of PLATO (Grossman et al., 2009) to the content-related pedagogy of other subjects owes, perhaps, to its level of granularity. Compared, for example, to Jordens and Zepke's (2019) 25-domain *Quality Teaching in Science* and, indeed, the 20-category KQ (Rowland et al., 2005, 2009), the number of content-related dimensions of pedagogy within PLATO is fewer (n = 11), and their scope broader. Dimensions of content-related pedagogy whose character-scope is more generic-encompassing are, by that very fact, more likely to cross disciplinary boundaries (Kloser, 2014). Kloser's discussion of grain size proved instructive re the current project, reminding the researcher that, like the Cambridge team, his goal was to capture the intricacy of demonstrated content-related pedagogy by illuminating, more specifically, the various types of pedagogical activity featured therein. As Willig (2013) noted, the researcher must resist the impulse to over-homogenise comparable types of activity.

A question, then: *Why didn't the researcher start with PLATO and make it similarly fine-grained?* The reason concerns the purpose and, moreover, usability of each of the frameworks. The purpose of PLATO (Grossman et al., 2009), recall, is judgement; additionally, its application requires specialised, and extensive, training-certification: "observers [must] score correctly on 80% of their scores on observations of at least five samples of English/Language Arts instruction. Reliability should also be retested in the field

by having two observers attend the same class and both complete the PLATO protocol. Follow-up training and testing may be required" (CSET, 2013, para. 2). PLATO is, in fact, a *system* of observation; that is, a "collection of elements that together produce scores representing individual teachers' instructional quality. These elements include the observational instrument itself, the set of raters recruited or available to conduct the observations, rater training and certification, and the scoring design used" (Hill, Charalambous & Kraft, 2012, p. 57). As per Chapter 1, the researcher sought, instead, a serviceable *heuristic* that he, and others, could use to frame pedagogical reasoning vis-à-vis the pedagogy of subject English in a manner commensurate with principles of good professional learning (e.g., Cosgrove, 2018; Edwards-Grove et al., 2014; Jensen et al., 2012; Johnson, 1991; Turner & Rowland, 2008). The KQ, which (a) has a formative purpose, (b) requires, only, familiarisation therewith (cf. extensive training-certification), and (c) is fine-grained and features a more functional-illuminative nomenclature, appears to better suit that need. Even so, reading and writing about PLATO has, indeed, been helpful.

Although PLATO (Grossman et al., 2009) may not present a highly-granulated/distinctive image of the PCK of subject English, examination thereof has proven theoretically sensitising. The construct *Instructional scaffolding*, for example, reminds that social-constructivist approaches to teaching-learning are characteristic of effective English pedagogy (e.g., Christie, 2018; Derewianka, 2018; Edwards-Groves, 2003; Edwards-Groves et al., 2014; Edwards-Groves & Davidson, 2017; Hammond, 2001; Hardman, 2011). The element *Connections to personal and cultural experience* reminds that subject English concerns, often, students' lifeworlds, including, indeed, that students' lived experiences and "beliefs, assumptions [and] theories…about the world" (Knobel & Honan, 1998, p. 129) comprise "a resource for…interpretative[-creative] responses" (McDonald, 2018, p. 3). The element *Text-based instruction* reminds that study of "[classic and contemporary] literary

texts of personal, cultural, social and aesthetic value" (ACARA, 2016a, p. 10) and, also, "media texts, everyday texts and workplace texts" (p. 11) – comprises "the heart of the English curriculum" (Adams & Campagna-Wildash, 1995, p. 1). A question thus arises: *What implications might these 'reminders' present vis-à-vis the current project?*

When analysing the data, then, the researcher remained sensitive to the presence of those aspects of the content and pedagogy of subject English. When identified, he asked himself: *What specific pedagogical activities pertain thereto? Are these activities 'captureable' by any of the categories of the KQ? If not, what might they labelled?* He sought, then, to reconcile the pedagogical activities with the dimensions of the KQ. The results of this process were interesting, generating categories of subject-specific pedagogical activity which, by that very fact, occasioned development of a distinctive knowledge quartet for English – that is, a KQ-E.

Chapter Summary

A review of scholarly literature relevant to the study was presented. Moreover, the gap in current knowledge the research aims to fill was demarcated. A précise of theoretical antecedents to Rowland et al.'s (2005, 2009) *Knowledge Quartet* (KQ) – namely, Shulman's (1986, 1987) influential taxonomy of teacher knowledge, and variations thereof – was provided before research that questioned the practical value of taxonomies of teachers' theoretical knowledge-for-teaching – and which, instead, advanced classifications of knowledge-in-teaching – was presented. The Cambridge team's KQ, a model of *in vivo* teacher knowledge, was, then, introduced-expounded before a corpus of research concerning its application, expansion and embellishment was detailed. Thereafter, Rowland's (2013) inquiry-motivating question was presented: "[C]an [the *Knowledge Quartet*,] a framework for knowledge-in-teaching developed in [Mathematics,]…be legitimately adopted in another [subject discipline]?" (p. 40). Thus, the notion of a Knowledge Quartet for subject English

was posited and, following Baumert et al. (2010), epistemological-pedagogical conditions that might impress thereon were proffered vis-à-vis four models of (subject) English and, also, the make-up of the *Australian Curriculum: English* (ACARA, 2016a). Finally, Grossman et al.'s (2009) theoretically sensitising *Protocol for Language Arts Teaching Observation* (PLATO) – hitherto, it seems, the single extant framework-for-lesson-observation/analysis specific to the pedagogy of the whole of subject English, and, moreover, agnostic re models thereof – was presented. Additionally, the subject-specificity of PLATO was questioned, thereby further opening, and validating, the space for the current project. Rowland asked, also, "[W]hat might the conceptualisations of the dimensions of the KQ…look like in another discipline?" (pp. 40-41). Hitherto, though, his questions have not, apparently, been pursued. Thus, the current project represents, it seems, the first-ever attempt to provide an empirically-based answer to Rowland's questions; that is, to systematically test the extent of applicability of the KQ to a subject discipline beyond Mathematics. Chapter 3 documents the process whereby that investigation, framed by the research questions presented in Chapter 1, was conducted.

Chapter 3: Methodology

Introduction

In this chapter, the process by which the research questions were addressed is described and justified. First, the research questions, which respond to opportunities for inquiry presented in/by relevant scholarly literature, are presented. Thereafter, the methodology – instrumental multiple case study – is reiterated before the strategy of inquiry – semi-grounded theory – is described and justified vis-à-vis its pragmatic appropriateness and paradigmatic affordances. Next, the developmental phase of the research, wherein (a) ethical desiderata were addressed and (b) a pilot study (which involved development of a method of data presentation and analysis) was conducted, is presented. This, then, is followed by a description of the main study, wherein the veracity of the nascent *Knowledge Quartet – English* (KQ-E) was tested and its practical value surmised. Matters pertaining to procedural rigour are discussed before the methods and schedule of qualitative data collection are described. Thereafter, the four teachers whose lessons were selected for analysis – Grace, Zahra, Christopher and Catherine – are introduced before the chapter concludes with an exposition of each of the categories of the KQ-E.

Research Questions

The following questions, developed in response to opportunities for inquiry presented in/by relevant scholarly literature, directed the research:

- Research Question 1 (RQ1): *To what extent is the content of the KQ applicable to the pedagogy of subject English?* To address RQ1, two subsidiary questions were developed:
    - *What categories of the KQ are applicable to the pedagogy of subject English?*

- *Are there components, or facets, of the pedagogy of subject English that cannot be captured by categories of the KQ, and if so, what revisions can be made to the framework to accommodate those components/facets?*

- Research Question 2 (RQ2): *What do the categories of the KQ, and any new categories, 'look like' in the context of the pedagogy of subject English? What do they capture?*

- Research Question 3 (RQ3): *What potential might a KQ for English have, or demonstrate, to enhance the pedagogy of teachers of subject English?*

Hereunder, the systematic process by which credible answers to the research questions were formulated, is presented, beginning with a recapitulation of the methodology and, then, explication/justification of the strategy of inquiry, including its ontological-epistemological bases.

Methodology and Strategy of Inquiry

As per Chapter 1, the research utilised instrumental multiple case methodology to address the research questions. The methodology:

- "accomplish[ed] something other than understanding a particular situation" (Baxter & Jack, 2008, p. 549): namely, it "[exemplified and] refine[d] a theory" (Punch, 2009, p. 119); and
- involved examination of multiple cases (lessons) of 'the pedagogy of subject English'.

Within this methodology, semi-grounded theory was the strategy of inquiry by which the KQ-E was formulated.

Grounded theory "is both…process…(i.e., *method*) and…product (i.e., *theory*)" (Willig, 2013, p. 70), offering "several key strategies" (p. 82) that researchers can apply to

data – usually qualitative – to (*inductively*) generate conceptualisations of the localised social phenomena being investigated (i.e., about which the data were gathered). Since Glaser and Strauss (1967), grounded theory has undergone ontological-epistemological reconceptualisation and attendant procedural revision. As Dey (1999) observed, there are "probably as many versions of grounded theory as there are grounded theorists" (p. 2). The *evolved* grounded theory explicated by Strauss and Corbin (1990, 1994, 1998) was appropriate for this project for pragmatic and paradigmatic reasons.

Pragmatic Rationale

Within the field of educational inquiry, pragmatic approaches to research are common (Thomas & Corbett, 2018). Spurred by "problems of practice" (Thomas & Corbett, 2018, p. 172), these approaches involve, as Punch (2009) noted, "begin[ning] with research questions that need answers and then…choos[ing] methods for answering them" (p. 19). Testing and elaboration of extant 'middle-range' theory (Merton, 1957) – that is, of the *Knowledge Quartet* – was the goal of this project. Thus, the research questions, which operationalised that goal, yielded methodological implications: namely, they implied *discovery*, a process for which grounded theory is, Creswell (1994) contended, the appropriate strategy of inquiry. Moreover, Rowland (2008, 2013) and Rowland et al. (2005, 2009) had provided a methodological framework and template the researcher could follow. The Cambridge team "took a grounded approach to the data for the purpose of generating theory" (Rowland, 2008, p. 281). Similarly, then, the process of analysis the researcher 'brought to' the project data was *semi*-grounded, characterised by application of the existing coding scheme proffered by the original KQ *and*, also, the exploratory-generative spirit of open coding, wherein openness to, and sensitivity toward, alternate theoretical possibilities within the data was maintained. As Strauss and Corbin (1994) explained, "if existing (grounded) theories seem appropriate to the area of investigation, then these may be *elaborated* and modified as incoming data are

meticulously played against them" (p. 273). Indeed, elaboration of the original KQ was presumed by the Cambridge team, which "take[s] the view that the details of [the KQ's] component codes, and the conceptualisation of each of its dimensions, are perpetually open to revision" (Rowland, 2008, p. 289). The project represents, or constitutes, then, a 'revision-by-grounded-theory' of the original KQ, whereby theoretical sampling (Glaser & Strauss, 1967) opened the extant framework to reconceptualisations and reformations that reflect, and hone its relevance to, the pedagogy of another curriculum subject – English. Finally, grounded theory was 'pragmatically fitting' because the outcome – that is, the resulting theory – *parsimoniously* frames complexity: by converting complex phenomena into abstract constructs and, then, categorising them as per hypothesised links, a relatively simple – and, hopefully, beneficial – rendering of that complexity is proffered. Thus, the *practical potential* of grounded theory, whereby theory generated from systematic analysis of (in this case) teaching may, then, inform/support teaching – a dialectical relationship captured by Skott's (2006) notion of a 'theoretical loop' – also rendered the methodology appropriate. Grounded theory, Willig (2013) noted, offers convenient schemes by which to comprehend social phenomena.

The evolved grounded theory explicated by Strauss and Corbin (1990, 1994, 1998) was appropriate, also, because it melded, neatly, with paradigmatic assumptions that underpin the project.

Paradigmatic Rationale

Punch (2009) noted that "[a] point of contention in [qualitative] research methods training has been whether or not [paradigmatic] assumptions should be made explicit in a piece of postgraduate research" (p. 15). Crotty (1998), Mason (2017) and O'Leary (2004, 2014) argued they should. Silverman (2006), conversely, figured the obligation to explicate paradigmatic assumptions was moot:

> I have lost count of the…qualitative research papers I have come across which find it necessary to define their work in terms of obscure philosophical positions such as phenomenology or hermeneutics. … In my view, you do not need to understand these terms in order to carry out good qualitative research. Indeed, if you try to understand them, my guess is that you will not emerge from the library for many years. … If you have a simple approach that is working well for you, don't try to dress up your work in fancy terms. (p. 7)

Punch (2009) concurred, somewhat: "It is the development of qualitative methods which has exposed the many different paradigm possibilities, *and the situation has become very complicated* [emphasis added] (p. 17). Nevertheless, the researcher feels compelled to present, briefly, the ontological-epistemological assumptions that underpin the project. As Clarke (2005) argued, "epistemology/ontology constitutes the bedrock, the foundation of a method" (p. 301).

As the Cambridge team acknowledged, albeit briefly – and, moreover, as various accounts of the development of the KQ imply (e.g., Rowland, 2013; Weston, 2013; Weston et al., 2013) – a constructivist orientation to knowledge-generation circumscribed the process of inquiry/theorising: "We had no theories in advance – at a level other than…*constructivist epistemology* [emphasis added] and grounded theory methodology – to shape the way we looked at [the data]" (Rowland, 2008, p. 284). Likewise, then, the researcher assumed a relativist[4] ontology and, epistemologically, "that, in the act of knowing, it is the human mind that actively gives meaning and order to that reality to which it is responding" (Balbi, 2008,

[4] The doctrine that knowledge, truth, and morality exist in relation to culture, society, or historical context, and are not absolute. As Strauss and Corbin (1994) stated, "[r]esearchers and theorists are not gods, but men and women living in certain eras, immersed in certain societies, subject to current ideas and ideologies, and so forth. … In short, theories are embedded 'in history'" (pp. 279-280).

p. 16). As Crotty (1998) stated, "meaning emerges only when consciousness engages with [the world]. … [C]onstructivism claims…that meanings are constructed by human beings as they engage with the world they are interpreting" (p. 43). Thus, the *evolved* grounded theory explicated by Strauss and Corbin (1990, 1994, 1998), wherein a constructivist orientation is discernible, was adopted. Strauss and Corbin (1994) stated that "theory is not the formulation of some discovered aspect of a pre-existing reality 'out there'. To think otherwise is to take a positivistic position that…we reject, as do most other qualitative researchers. Our position is that truth is enacted: Theories are interpretations made from given perspectives as adopted or researched by researchers" (p. 279). Similarly, Schwandt (1994) stated that constructivists "are deeply committed to the view that what we take to be objective knowledge and truth is the result of perspective" (p. 125). Thus, data do *not* 'speak for themselves': categories cannot (pre-)exist – concealed, awaiting discovery – among the data before the process of categorisation occurs. Rather, categories are *constructed* by the researcher – a conscious, perceiving agent – during the research process. Charmaz (1990): "The researcher creates an explication, organisation and presentation *of* the data, rather than discovering order *within* the data" (p. 1169).

Thus, a (semi-)grounded theory approach located within constructivist epistemology recognises the *active* role of the researcher in analysis. Indeed, the Cambridge team acknowledged that "we did not come to our analysis of the [data] *tabula rasa*…we made…connections of various kinds that came to mind when we viewed the lessons. These might be, for example, to something we had witnessed in the past, something someone had said in a discussion, or in a lecture, or something we had read" (Rowland, 2008, pp. 284-285). The researcher's analyses of project data were, similarly, reflexive (Winter, 1989), shaped, somewhat, by the corpus of theoretically sensitising experience that comes of *being* a teacher of secondary English for nearly 20 years, and, also, the review of scholarly literature

that was completed concurrent to data collection-preparation-analysis. A constructivist orientation to grounded theory, therefore, preserves the methodology's aspiration to illuminate/theorise localised social phenomena (Edgar, 1999), but discounts a 'bird's-eye' notion of (social) reality, maintaining, instead, the symbolic interactionist (Blumer, 1969) notion that "the researcher's own assumptions and expectations will inevitably shape the theory that they develop on the basis of their research" (Willig, 2013, p. 79). As Charmaz (2000) noted, "[b]y adopting a constructivist grounded theory approach, the researcher can move…further into the realm of interpretive social science…without assuming the existence of a unidimensional external reality" (p. 521). Thus, in/for this project, the researcher actively constructed *a* particular re-presentation, 'way of knowing' – or, indeed, interpretation – of the phenomenon researched. Strauss and Corbin (1994) noted, however, that interpretation ≠ fallibility.

Developmental Phase of the Research Design: Ethical Desiderata and Stage 1: Pilot study

Hereunder, the developmental phase of the research, wherein (a) ethical desiderata were addressed and (b) a pilot study (which included development of a method of data presentation and analysis) was conducted, is discussed.

Ethical Desiderata

Ethics approval. Knobel and Lankshear (1999): "A strong ethical approach and associated procedures are essential to all worthwhile research" (p. 104). Identifying, seeking and receiving the permissions necessary to conduct research is, Burns (2000) stated, a critical aspect of the preparatory phase of a project. Thus, permission to conduct the research was sought from, and granted by, relevant authorities. The research formed part of the larger *Powerful Knowledge* project and was, therefore, granted ethics approval under that project's Approval Reference H0013090 from the University of Tasmania's Human Research Ethics

Committee (Appendix A). Further, the participants were employees of the Department of Education (DoE), Tasmania; specifically, they were classroom teachers working in DoE primary and high schools. Thus, permission to conduct the research was sought, also, from the DoE, and granted by that organisation's Educational Performance Services unit in May 2016 (Approval Reference 2016-19). As per the DoE's letter of approval (Appendix B), permission from principals to conduct the research in their schools was sought and granted (via email and/or face-to-face meetings) concurrent to the process of seeking teacher-participants.

Informed written consent. Two documents, an information sheet and consent form, were emailed to teachers (and their principals) who indicated their interest in participating in the main study. The information sheet (Appendix C) provided a detailed description of the study, including its purpose, the process of data-collection, the nature of participation, and maintenance of confidentiality; it included, also, a list of benefits of participation, including that each participant would receive a copy of the video- and audio-recordings that were made during the observations of, and interviews about, his/her pedagogy. Four teachers agreed to participate in the main study and forwarded – via conventional post, email or in person – their signed consent forms (Appendix D) to the researcher. Immediately prior to each of the first observations, the researcher asked the teacher if s/he had questions about the project and, if necessary, addressed these before signing the consent form. Later, a copy of the co-signed consent form was emailed to the teacher.

An information sheet for the students (and their parents/carers) of the participating teachers was prepared and forwarded to the participating teachers and their principals two weeks before each of the first observations occurred (Appendix E). Whether, and by what means, that document (or modified version thereof) was, then, distributed to students and their parents/carers was at the discretion of the teacher and/or his/her principal. One of the

participating teachers simplified the content of the document before distributing it to students and their parents/carers.

Assurance of confidentiality. Knobel and Lankshear (1999): "Participants should be assured in writing that their identities will be protected as much as possible in any report of the project outcomes and processes" (p. 106). The consent form, signed by the researcher, provided each teacher with documented assurance of confidentiality, "a traditional criterion of [social research] ethics" (p. 106). Safeguarding the identity of the teachers and, also, the schools at which they work, involved anonymising data and descriptions that appear in the thesis. Each of the teachers was assigned a pseudonym, and each of the schools was assigned a numerical code (e.g., Primary School #1). Descriptions of schools and their locales are general. Also, publicly-available quantitative data sourced/reported from ACARA's *My School* website (e.g., each school's ICSEA value) were modified: figures are rounded to the nearest 10, thus preserving schools' anonymity by preventing identification-via-provision-of-specific-information. Students' names are absent from the thesis: where a tract of teacher talk that includes a student's name is quoted, the student's name is replaced with 'STUDENT'. Data collected and prepared for the project are stored as (a) password-protected .docx, MPEG-4 Video (.MP4) and .wma files on the researcher's University-provided notebook computer, and (b) hard-copy documents in a lockable filing cabinet in the Faculty of Education building on the University of Tasmania's Newnham campus. All data pertaining to the project will be destroyed five years from the date of final publication of results.

Respect. Data-collection was conducted with probity and professionalism. Always, the teachers, their students and principals were treated respectfully: the researcher was punctual, polite and explained matters completely and unambiguously. Participation was voluntary and the teachers (and/or their principals) were free to withdraw from the study at any point without question or consequence. This right was detailed in the information sheet

and reiterated by the researcher immediately prior to each of the first observations. Parents/carers, too, could absent their children from the periods of observation (as per Appendix E). None exercised this right, though one teacher requested a particular student not appear on video. The request was respected.

Stage 1: Pilot Study

A pilot study was conducted, wherein the researcher used extant data to develop, trial and refine a process of analysis. The pilot study had, moreover, a proof-of-concept function, demonstrating the viability, or merit, of a full(er)-scale project: its outcomes revealed that further research was, indeed, warranted. Hereunder, the mix of intellectual and practical work that comprised the pilot is reported. That work is (re-)presented as though realised linearly, stepwise; in actuality, however, multiple 'steps' of the pilot were, often, addressed/accomplished concurrently. "[E]very part of grounded theory is integrated and simultaneous" (Triad 3, 2016, para. 6).

Category definitions were developed. The KQ includes 20 categories which, save their brief descriptive labels, have *not* been defined by the Cambridge team: "the name assigned to each [category] is intended to be indicative of the type of issues identified by it" (Rowland, 2013, p. 19). Rather, descriptions of exemplar pedagogical activity are provided, from which category definitions can, then, be assumed. That is, developing a definition, or clear sense of the focus and scope, of each category involves *abstracting* from the range of illustrative accounts that Rowland et al. (2005, 2009), and others (e.g., Abdulhamid & Venkat, 2013; Corcoran, 2007; Rowland, Thwaites & Jared, 2015; Rowland & Turner, 2007; also, at www.knowledgequartet.org), have presented. The initial phase of the pilot study entailed, therefore, (a) drafting a generic (i.e., 'abstracted') definition of each category of the KQ based on the range of illustrative scenarios presented in research literature and at www.knowledgequartet.org, and (b) including with each definition a brief description (or

descriptions) of *English* pedagogical activity that exemplified the category. As Rowland (2008) asked, "What might the conceptualisations of the dimensions of the *Knowledge Quartet* look like in…other disciplines?" (p. 295).

The category definitions (and descriptions of exemplar pedagogical activity) were, during the pilot study, closely scrutinised, recurrently appraised and honed in light of the outcomes of analysis of the pilot data. The penultimate version of the category definitions, developed mid-pilot study, was emailed to T. Rowland at tr202@cam.ac.uk for evaluation and feedback. He replied: "In terms of the existing codes of the KQ, I found *your exposition in line with my own understanding* [emphasis added], and was interested to see what they look like in the context of English teaching" (personal communication, May 1, 2017). In a follow-up email, he stated: "I've recently been reading some KQ-based small-scale studies by masters students at another university (as external) and a few of them simply seemed to make up the meanings of the dimensions! Therefore I want to reiterate *my appreciation of your account of the codes* [emphasis added]!" (personal communication, June 8, 2017). The researcher was confident, therefore, of the accuracy of the category definitions, which, following some further refinement, provided a sure basis for categorising English teachers' pedagogy.

Data for the pilot study were selected and prepared for analysis. Data collected in classrooms in Ministry of Education and private schools in Auckland, New Zealand, for the *Powerful Knowledge* project were available to the researcher. From that corpus of data (comprised of video-recordings of teachers conducting lessons), two video-recordings – made in early childhood classrooms in a Ministry of Education school located in, and serving, a middle-class inner-city suburb of Auckland – were selected by the researcher for pilot analysis. Emily and Laura (pseudonyms), the mid-career teachers in the video-recordings, each demonstrated, the researcher judged, *rich* pedagogical activity – including, for example,

whole-class, small group and one-to-one teaching; use of instructional procedures located within Pearson and Gallagher's (1983) Gradual Release of Responsibility model; and use of a range of resources, including subject-specific lexes, to support teaching/learning – that would, by that very fact, rigorously test the applicability of the KQ to English teaching. Also, the focus of Emily's lesson was reading, whereas the focus of Laura's lesson was writing. Emily and Laura each taught a Year 1/2 class (students 5-7 years old). For descriptive synopses of their lessons, see Appendix F.

Transcripts of the selected lessons were prepared. Verbatim transcripts of all teacher discourse that occurred during the two lessons/video-recordings were prepared by the researcher. Transcription, Denscombe (1998) noted, is not simply a technical process that precedes analysis proper. As Atkinson and Heritage (1984) observed, the production of transcripts is, in itself, a research activity: thus, the mentally attentive process of encoding the teacher discourse captured in the video-recordings – a process that involved close, repeated viewing of the material – brought the researcher "close to the data" (Denscombe, 1998, p. 130), enabling preliminary analyses thereof. As the researcher transcribed the teachers' discourse, he maintained a neat, hand-written catalogue of those moments of teaching to which a category (or categories) of the KQ obviously applied: the video-recording timestamp was logged alongside a brief description of the moment of teaching and a note re the applicable unit(s) and category(ies). During transcription, the researcher observed, also – and recorded, in a second catalogue document, the details of – pedagogical activity that appeared uncaptureable by the categories of the KQ – and which, therefore, intimated the possibility of new categories. The two catalogue documents generated concurrent to the process of transcribing the teacher discourse evolved, then, into the coding instrument

The coding instrument was developed. A document on which to complete/record analyses was required. The document needed to:

(a) accommodate the verbatim transcript of all teacher discourse that occurred during a lesson;

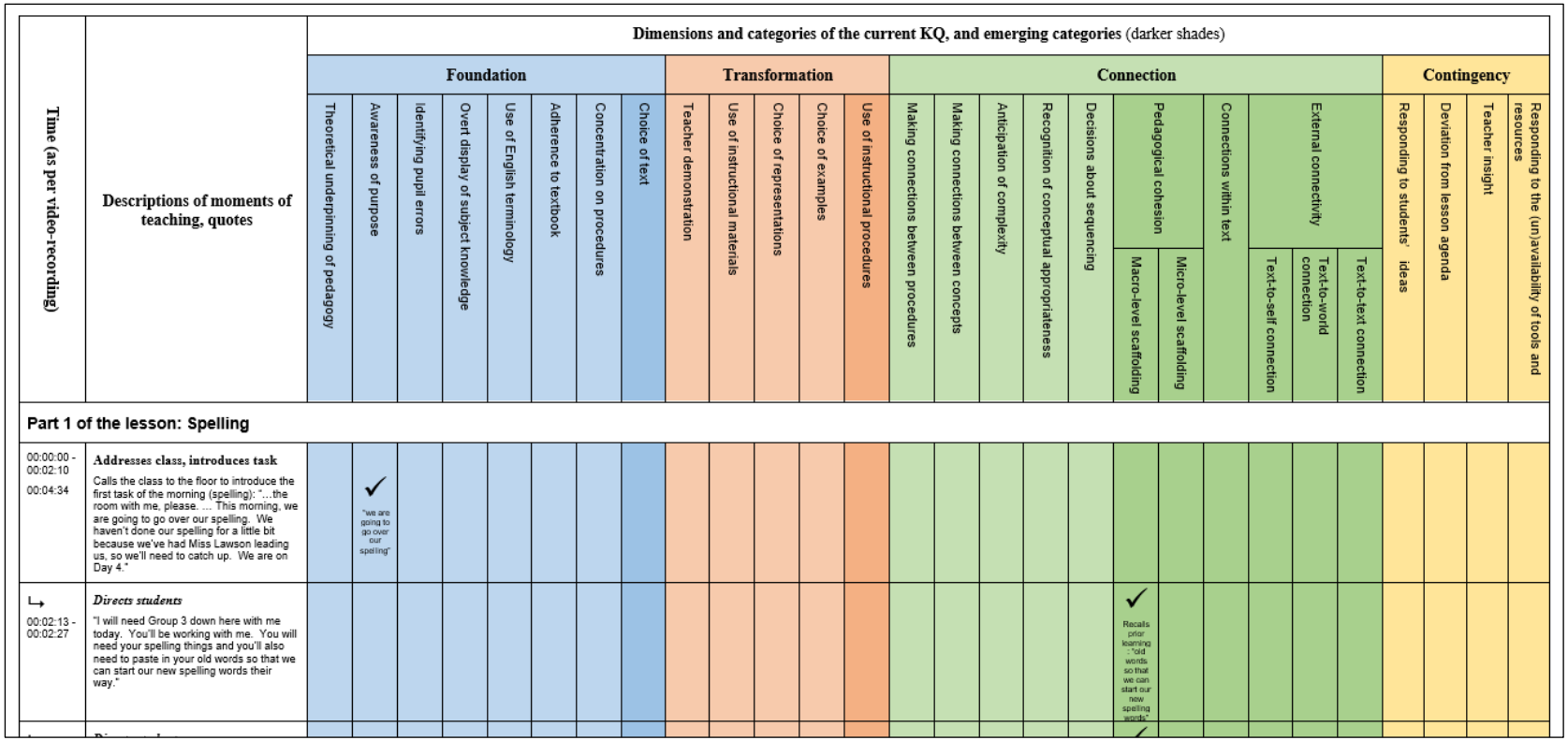
(b) indicate the structure of the lesson; and

(c) include space in which to indicate which of (ultimately) 28 codes applied to each of *x* moments of pedagogical activity.

The document underwent several iterations, each representing a resolution of matters of content and/or layout and/or presentation that emerged during analysis of the pilot data.

The document (see Figure 1 and Appendix G) consists of a 30-column taxonomic 'grid', or table, presented on A3-sized pages in landscape orientation. Down the second-from-left column, the lesson transcript is presented, divided – and, sometimes, sub-divided – into distinct moments of teaching. Each of the 28 columns to the right of the transcript column represents a category of pedagogical activity that might apply to, or characterise, a moment of teaching. Twenty of these columns represent the 20 categories of the original KQ (i.e., one column represents one category); each of the eight additional columns represents a category of 'English-distinctive' pedagogical activity that arose from analysis of the pilot data. The process by which these new categories were developed, and their foci and names, are detailed later in the chapter. In the table, the categories of pedagogical activity that comprise Foundation appear first; followed, then, by the categories that comprise Transformation; then Connection; and, finally, Contingency. The pragmatics of coding lesson transcripts that continued for many pages necessitated distinguishing different parts of the table by colour: thus, the columns/categories that comprise Foundation are coloured blue; Transformation red; Connection green; and Contingency yellow. Moreover, the columns that represent the eight (new) categories that arose from analysis of the pilot data are coloured a darker shade of the applicable colour (e.g., the column/category *Choice of text*, in

Foundation, is a darker shade of blue). The process of (sub-)dividing each transcript of teacher discourse into distinct moments of teaching determined the number of table rows.



Time (as per video-recording)	Descriptions of moments of teaching, quotes	Dimensions and categories of the current KQ, and emerging categories (darker shades)																													
		Foundation								Transformation					Connection												Contingency			
		Theoretical underpinning of pedagogy	Awareness of purpose	Identifying pupil errors	Overt display of subject knowledge	Use of English terminology	Adherence to textbook	Concentration on procedures	Choice of text	Teacher demonstration	Use of instructional materials	Choice of representations	Choice of examples	Use of instructional procedures	Making connections between procedures	Making connections between concepts	Anticipation of complexity	Recognition of conceptual appropriateness	Decisions about sequencing	Pedagogical cohesion		Connections within text	External connectivity			Responding to students' ideas	Deviation from lesson agenda	Teacher insight	Responding to the (un)availability of tools and resources
																				Macro-level scaffolding	Micro-level scaffolding		Text-to-self connection	Text-to-world connection	Text-to-text connection				
Part 1 of the lesson: Spelling																															
00:00:00 - 00:02:10 00:04:34	**Addresses class, introduces task** Calls the class to the floor to introduce the first task of the morning (spelling): "…the room with me, please. … This morning, we are going to go over our spelling. We haven't done our spelling for a little bit because we've had Miss Lawson leading us, so we'll need to catch up. We are on Day 4."		✓ "we are going to go over our spelling"																												
↳ 00:02:13 - 00:02:27	***Directs students*** "I will need Group 3 down here with me today. You'll be working with me. You will need your spelling things and you'll also need to paste in your old words so that we can start our new spelling words their way."																			✓ Recalls prior learning : "old words so that we can start our new spelling words"										

Figure 1. The coding instrument.

Each transcript was segmented into units for analysis. Each transcript was (sub-)divided according to the *natural flow* of the teacher's discourse. To segment the transcript otherwise – by, for example, (sub-)dividing the stream of teacher discourse into *x*-minute-long fragments – would have proved problematic: imposing a 'false' (i.e., arbitrary/artificial) organising pattern upon the discourse would have disconnected the applicability of a category from the *whole* of the teaching moment to which it related: that is, the context, or conditions, of applicability would have been disrupted. Hence, the transcript was (sub-)divided so that moments of teaching were kept intact.

Each moment of teaching – presented within, and represented by, a table row – includes multiple data.

The units of analysis (called 'moments of teaching') were presented. Each moment of teaching, presented consecutively (i.e., row-by-row) down the second-from-left column of the table, includes multiple data – namely, (a) the verbatim record of the teacher's talk and, also, (b) a descriptive label that indicates the type of teaching being demonstrated (e.g., *Direction*, *Explanation*, *Question-answer exchange*). The video-recording timestamp for each moment (e.g., 01:02:47 - 01:03:55) is logged in the far-left column/cell. Sometimes, a down-right pointing arrow (↳) appears above the timestamp, indicating a *sub-moment* of teaching – that is, a tract of teaching (e.g., a question-answer exchange) that constitutes part of a larger moment of teaching (e.g., an explanation). The general architecture of the lesson (e.g., Spelling, Do Daily, Writing) is indicated by the inclusion of rows labelled *Part 1 of the lesson…*, *Part 2 of the lesson…*, *Part 3 of the lesson…*, etc.

The moments of teaching were coded. Each moment of teaching is represented by, and presented within, a table row, and each table row is divided into 28 cells, one for each of the 28 categories of the KQ-E (with category labels presented along the third-from-top row of the instrument). Each moment of teaching was examined by the researcher vis-á-vis the

category definitions and coded as (1) an *actual* instance of a category of pedagogical activity; or, sometimes, (2) an *opportune* instance of a category of pedagogical activity.

Actual coding. Most coding was actual. Almost every moment of teaching demonstrated by Emily and Laura exemplified – i.e., was a clear (i.e., *actual*) instance of – a category of pedagogical activity. The actual applicability of a category to a moment of teaching was a indicated by a tick (✓) in that category's cell on the table row. Below the tick, a note explaining/justifying, briefly, the applicability of the category was written. The notes were important/useful, reminding the researcher of, and illuminating for others, the decision-making that informed coding.

Opportune coding. After Weston (2013), some moments of teaching were coded *opportunely*. Sometimes, a moment of teaching demonstrated by Emily or Laura lacked, it seemed, conceptual and/or procedural integrity: its cogency – and, therefore, efficacy – appeared compromised. Moreover, had the moment represented, or 'been', a coherent instance of a particular category of pedagogical activity, its efficacy might, perhaps, have been sounder. Such moments were coded *opportunely* – indicated by an 'O' + explanatory/justificatory note in that category's cell on the table row.

Actual and opportune codings indicate the practical value of a KQ for English: they (a) illuminate the scope of, and (b) trigger, perhaps, reflection re the efficacy of, the pedagogical activity demonstrated by the teacher – which may, then, prompt professional activity (e.g., feedback, dialogue, reflection, self-directed professional learning) that enhances teaching and leads, then, to improved learning outcomes for students. As Rowland (2008) stated, "identification of [categories of pedagogical activity] by an observer raises the possibility for the teacher to reflect on [them], to add to their knowledge for teaching, and to inform future action" (p. 284).

The data were analysed. The pedagogy demonstrated by Emily and Laura, re-presented via the segmented lesson transcripts, was analysed. The process of analysis was semi-grounded, characterised by application of the categories of the original KQ and, also, the exploratory-generative spirit of open coding. The original KQ provided categories from which to begin analysis. Applicability (actual or opportune) of the existing categories was addressed first: the data were "mine[d]…for [the] predetermined categories" (O'Leary, 2004, p. 200). Each moment of teaching was examined (and re-examined) and, if an existing category was deemed applicable thereto, the moment was coded accordingly; that is to say, if a moment of teaching

(a) exemplified, or 'met the conditions', of an existing category, the moment was *actually* coded accordingly (i.e., by ticking the table cell and recording a brief explanatory/justificatory note); or

(b) could, potentially, have represented, or 'been', a coherent instance of an existing category, was *opportunely* coded accordingly (i.e., by recording 'O' + explanatory/justificatory note in the table cell).

Beginning the process of analysis by applying the existing categories was, in fact, helpful: it "prevent[ed] the analyst becoming bogged down in the data" (Glaser, 1978, p. 73). The pedagogy demonstrated by Emily and Laura was subject to repeated analyses: via the lens of Rowland et al.'s (2005, 2009) KQ model, their teaching was evaluated, repeatedly, in terms of the applicability of the (existing) categories until saturation was achieved; that is, through consecutive cycles of analysis, the point at which the data were no longer sensitive to application of the categories of the KQ, was reached (Punch, 2009). Some moments of teaching were conceptualised/coded according to more than one category and/or unit of the KQ.

In the spirt of 'true' open coding, the researcher was, during the initial cycles of analysis, receptive to new conceptual possibilities within the data. In fact, details of pedagogical activity that appeared uncaptureable by the categories of the KQ – and which, therefore, intimated the possibility of new categories – had been documented during transcription; thus, the researcher was, already, sensitive to new conceptual opportunities within the data.

The emergence of new categories: The need to revise the *Knowledge Quartet*. The constant comparison method of data analysis illuminated moments of teaching demonstrated by Emily and Laura that appeared uncodeable using the original KQ: that is, the categories of the extant framework appeared *not* to capture, adequately, the nature of the pedagogical activity being demonstrated. These moments of teaching became the focus of rigorous intellectual activity among the researcher and his supervisors: *Were they* really *uncodeable using the KQ, or were they, rather, manifestations of extant concepts/categories? Did they warrant the development of new categories that reflected the 'essence' of the pedagogy of subject English? If so, what might the categories be called?* The members of the research team contemplated the specific data vis-á-vis these questions individually and, then, together in several face-to-face meetings. As Strauss and Corbin (1990) stated,

> *A Grounded Theorist Need Not Work Alone*. [A]n important part of research is testing concepts and their relationships with colleagues who have experience in the same substantive area. … Discussions with other researchers often lead to new insights and increased theoretical sensitivity. Research projects carried out by teams…offer opportunities for collaborative analysis. Where several researchers live or work in proximity…on-going discussion groups provide an excellent supportive resource. (p. 11).

Also, relevant literature (e.g., Annandale et al., 2004; Beach, Appleman, Hynds & Wilhelm, 2011; Dixon, 1967; Grossman et al., 2009; Harvey & Goudvis, 2000; Martin, 1992, 1999; Macken-Horarik, 2014; Pearson & Gallagher, 1983; Rothery, 1994; Wells, 2009) was accessed. As Strauss and Corbin (1998) argued, consulting literature contributes additional voices to the process of theory construction, "stimulating…thinking about properties or dimensions [of similar phenomena] that we can then use to examine the data in front of us" (p. 45).

The development of an extended *Knowledge Quartet*: The *Knowledge Quartet – English*. Thus, via extensive collaboration, including reference to pertinent literature, eight new categories emerged, eventually, from the pilot data. The categories, and their labels, fluctuated for several weeks, as the researcher and his supervisors proposed, and debated, various possibilities. Eventually, however, the team's construction of the data, including nomenclature, stabilised. The new categories were:

- in Foundation, *Choice of text*
- in Transformation, *Use of instructional procedures*
- in Connection,
    - *Pedagogical cohesion: Macro-level scaffolding*
    - *Pedagogical cohesion: Micro-level scaffolding (task-level* and *point-of-need*[5]*)*
    - *Connections within text*
    - *External connectivity: Text-to-self connection*
    - *External connectivity: Text-to-world connection*

[5] As Willig (2013) noted, the "researcher needs to refocus on *differences* within a category in order to be able to identify any emerging *subcategories*" (p. 71). Via the constant comparison method, categories were generated and, then, 'broken down' into smaller units of meaning, thereby illuminating/realising the full complexity of the data and, moreover, counteracting the impulse to homogenise.

- *External connectivity: Text-to-text connection*

The researcher and his supervisors believed "the name assigned to each [category] is…indicative of the type of issues identified by it" (Rowland, 2013, p. 19). Nevertheless, explications are provided in Table 9 at the end of the chapter.

Justification of the emergent categories to form the *Knowledge Quartet – English*. The findings of the pilot – namely, that a revised/expanded KQ, the KQ-E, enabled, via its additional categories, the coding of types of pedagogical activity that were, previously, uncaptureable by the extant KQ framework – demonstrated the merit of conducting a full(er)-scale project. Rowland (2008) asked, "What might the conceptualisations of the dimensions of the *Knowledge Quartet* look like in…other disciplines?" (p. 295). Via the pilot, feasible *English-related* conceptualisations of the categories of the KQ were developed: the first-draft category descriptions were gradually honed as data were 'played against' them, and the penultimate draft thereof was validated by T. Rowland: "I found your exposition in line with my own understanding" (personal communication, May 1, 2017). Nevertheless, the scope of each of the English-related category definitions is, like the content of the original KQ, "perpetually open to revision" (Rowland, 2008, p. 289) via theoretical sampling. Moreover, the pilot generated nascent conceptualisations/categories of English pedagogical activity, whose viability, too, warranted testing via theoretical sampling. Thus, more data were collected, against which (a) the (conceptual) rigour of the *Knowledge Quartet – English* (KQ-E) could be tested, and, moreover, (b) its practical potential surmised. As Schwandt (1994) stated, constructivists "emphasise the instrumental and practical function of theory construction and knowing" (p. 125).

Stage 2: The main study:
Testing the *Knowledge Quartet – English*

Hereunder, the main study, wherein the veracity of the nascent *Knowledge Quartet – English* (KQ-E) was tested, and its practical value surmised, is explicated. Procedural rigour, including dependability and authenticity, is discussed before the methods of qualitative data collection – non-participant observation/video-recording and semi-structured interviewing – are described. Thereafter, the four teacher-participants – Grace, Zahra, Christopher and Catherine – are introduced before the method of data presentation/analysis is reiterated and the categories of the KQ-E are defined as a precursor to the content of Chapter 4.

Procedural Rigour

Objectivity, Kirk and Miller (1986) stated, is "the essential basis of all good research" (1986, p. 20). Grounded theory was located, originally, within mid-20th Century positivism (Glaser & Strauss, 1967), and presumed, therefore, that phenomena inhere/generate their own representations that observers can perceive directly (Crotty, 1998): "[O]bjectivist versions of grounded theory assume a single reality [which] a passive, neutral observer [uncovers] through value-free inquiry" (Charmaz, 2008, p. 401). Later, Strauss and Corbin (1998), in describing the stance the researcher ought to assume relative to participants and data, used language that vacillated between post-positivism and constructivism: appeals to 'recognise bias' and 'maintain objectivity' were mixed with observations like "we emphasize that it is not possible to be completely free of bias" (p. 97). Later still, Charmaz (2000), in reconciling grounded theory with 21st Century epistemology, argued that "[d]ata do not provide a window on reality" (p. 542). Rather, the 'discovered' reality is, in fact, the researcher's "interpretive understanding of the studied phenomenon", which includes the "researchers' *construct*[*ion*] [emphasis added] [of] categories" (Charmaz, 2008, p. 402) via interaction with the data. Thus, locating grounded theory within constructivism – the epistemological-

methodological milieu of/for this project – problematises traditional notions of emergence (of categories, of theory) and objectivity (Mills, Bonner & Francis, 2006). Still, 'truth' can be compelling without being absolute.

In/for this project, then, which, owing to its ontological-epistemological premises, acknowledges that "we cannot be 'positive' about our claims of knowledge" (Creswell, 2009, p. 7) – the positivist notion of 'objectivity' is replaced, instead, with the post-positivist notion of 'neutrality', which refers to measures implemented to support the *credibility* of the research findings, including efforts to minimise bias and support impartiality (Knobel & Lankshear, 1999; O'Leary, 2004). Indeed, Charmaz (2008) acknowledged that "[i]n practice…grounded theory inquiry ranges between objectivist and constructionist approaches and has elements of both" (p. 402). O'Leary suggested that, for qualitative studies, credibility be realised by addressing, rigorously, *dependability* and *authenticity*, wherein dependability refers to "methodological protocols that are…consistent, logical, systematic [and] well-documented" (p. 60) and authenticity to "conclusions [that] are justified, credible and trustworthy" (p. 61). How these facets of procedural rigour were accomplished during the main study is described hereunder.

Dependability: How it was accomplished in the main study. In qualitative/constructivist research, dependability encompasses constancy of interpretation (Burns, 2000), and the data-analysis process incorporated actions that augmented this aspect of procedural rigour. First, the pilot study allowed the researcher to develop, and become familiar with, a process of (a) preparing data for analysis, and (b) analysing those data. During the pilot study, the researcher was able, via successive 'rehearsals', to:

- identify, and test, a suitable method of segmenting the flow of teacher discourse into analysable units;

- develop and refine the category descriptions, thus enabling accurate coding of moments of pedagogical activity; and
- refine the layout/presentation of the coding instrument.

Thus, a systematic process of analysis, including documentation, was developed. That process was, then, consistently applied to each of the lesson transcripts chosen in/for the main study.

Gibbs (2007) recommended measures that support dependability, which the researcher applied during the main study.

- all transcripts were triple-checked for mistakes that might have been made during transcription;
- a hardcopy of the category descriptions accompanied the coding process: constantly comparing coding decisions against the category descriptions, and each other, supported constancy of coding; and
- intra-rater reliability was monitored. Burns (2000) stated that "a two- to three-month period [between cycles of coding] is best" (p. 340): thus, each lesson transcript was, after the first cycle of coding, set aside for six weeks before, then, undergoing a second cycle of coding. For each of the transcripts, intra-rater reliability was measured by dividing (a) the number of variations – including additions, deletions and changes – to coding made during the second cycle of coding by (b) the number of first-cycle codings and (c) multiplying by 100 for percentage demonstration, then (d) subtracting that figure from 100. Measures of intra-rater reliability for each of the transcripts were:
    - Grace: $100 - (\frac{10}{105} \times 100) = 90.5\%$
    - Zahra: $100 - (\frac{15}{112} \times 100) = 86.6\%$

- Christopher: 100 – ($\frac{8}{55}$× 100) = 85.5%
- Catherine: 100 – ($\frac{11}{78}$ × 100) = 85.9%

Intra-rater reliability was high (overall, 87.1%), indicating the researcher's interpretation/coding of the lesson transcript data was very stable, based on clear conceptualisations of each of the 28 categories of the KQ-E.

Also, inter-rater reliability was assessed, as per the following process.

1. During a face-to-face meeting:
    a. the category definitions – developed during the pilot and validated by T. Rowland – were presented to the project supervisors, who read the definitions and, then, via discussion, clarified their understanding of the focus and scope of each of the 28 categories.
    b. a completed coding instrument was presented to the supervisors. The researcher showed, and 'talked to', his coding of the pedagogy demonstrated by Catherine: her discourse was segmented/presented down the second-from-left column of the instrument (with timestamps in the far left-hand column), and each of the 50 moments of teaching had been coded, as indicated by ✓ or O and brief rationale statements in the applicable category columns.
    c. the researcher's two University supervisors were each given a copy of Catherine's segmented/presented discourse *uncoded* and, via reference to the category definitions, and in consultation with each other (and, occasionally, the researcher), coded the first 20 moments of teaching.
2. Each of the researcher's University supervisors then independently coded the remaining 30 moments of Catherine's teaching.

3. Inter-rater reliability was calculated by comparing the researcher's coding of Catherine's pedagogy to each supervisor's coding of her pedagogy.

Inter-rater reliability between researcher and supervisor 1. For Catherine's lesson, the coding section of the coding instrument was comprised of 1400 cells – i.e., 50 moments of teaching (table rows) × 28 category columns = 1400 cells. Across the researcher's and supervisor's coding instruments, 132 cells had been marked ✓ or O; of these, 60, or 45.5%, had been marked ✓ or O by both coders. Often, one of the coders *co-coded* moments of teaching; that is, identified two+ categories that applied to a moment of teaching. Of the 72 cells identified as different between the coders, 44 were due to this additional coding. Thus, 61.0% of the difference between the coders' coding could be accounted for via one of the coder's identification of additional applicable categories. Accounting for this meant that 28 moments of teaching were coded differently by the researcher and supervisor 1, resulting in inter-rater reliability of 68.2%.

Inter-rater reliability between researcher and supervisor 2. Across the researcher's and supervisor's coding instruments, 93 cells had been marked ✓ or O; of these, 52, or 56.0%, had been marked ✓ or O by both coders. Again, one of the coders had co-coded moments of teaching, meaning that, of the 41 cells identified as different between the coders, 31 were due to additional coding. Thus, 75.6% of the difference between the coders' coding could be accounted for via one of the coder's identification of additional applicable categories. Accounting for this meant that 10 moments of teaching were coded differently by the researcher and supervisor 2, resulting in inter-rater reliability of 83.9%.

Cicchetti (1994) provided intra-class correlation coefficients on which appraisals of inter-rater agreement in qualitative research can be made. Inter-rater agreement is considered poor if values are less than 0.40; fair if values are between 0.40 and 0.59; good if values are between 0.60 and 0.74; and excellent if values are between 0.75 and 1.0. Based on the

Cicchetti figures, inter-rater reliability between the researcher and each of the two project supervisors was fair (45.5% and 56.0%); however, when co-coding is accounted for, inter-rater reliability was good to excellent (68.2% and 83.9%, average 76.1%). Miles and Huberman (1994) claimed that, for qualitative research, inter-rater reliability of ≈ 80% is desirable. The additional coding occurred, mainly, in the Connection categories *Pedagogical cohesion: Macro-level scaffolding* and *Pedagogical cohesion: Micro-level scaffolding*. The categories the coders found least applicable to Catherine's pedagogy were from the unit Transformation.

Thus, the data-preparation and coding process was rigorous, incorporating several quality-control 'checks' that bolstered dependability.

Authenticity: How it was accomplished in the main study. In qualitative/constructivist research, authenticity refers to credibility of interpretation (Knobel & Lankshear, 1999; Burns, 2000; O'Leary, 2004). Interpretive processes are subject to influences that could, perhaps, compromise the cogency, and integrity, of analyses and findings. Thus, the data-analysis/interpretation process incorporated actions that enhanced the authenticity of the project findings: "rigour and reflexive practice…assured that conclusions [were] justifiable, credible and trustworthy" (O'Leary, 2004, p. 61). Creswell (2009) recommended several "validity strategies" (p. 191), which the researcher applied during the main study:

- data triangulation, "the use of multiple data sources in the same study for validation purposes" (Hussein, 2009, p. 3). The collection, and use, of two complementary bodies of qualitative data, merged "at the interpretation-of-results stage" (Punch, 2009, p. 296), augmented the veracity of the project findings.
- investigator triangulation: a means of reducing researcher bias, "the use of multiple…data analysts in the same study for confirmation purposes" (Hussein, 2009,

p. 3). Inter-rater reliability was good-excellent; moreover, the researcher's presentation and interpretation of the data was regularly reviewed and challenged by his supervisors, and modified accordingly. As Strauss and Corbin (1990) observed, "[o]pening up one's analysis to the scrutiny of others helps guard against bias" (p. 11). Thus, the credibility of the analyses was bolstered by incorporating data summaries and interpretations suggested by others.

- two methods of respondent validation, or member checking, were used. Each program of interviews – comprised, in most cases, of three post-lesson interviews and a final, summary interview – provided the researcher with multiple opportunities to share, and have each teacher appraise the viability of, the researcher's interpretations of that teacher's pedagogy. This phase of member checking, mostly concurrent to data-collection, enabled the researcher to develop, and draft, valid interpretations of each teacher's pedagogy. Additionally, each of the four teachers – Grace, Zahra, Christopher and Catherine – was provided, via email, with selected portions of the draft analysis/interpretation of their pedagogy, and invited to check the descriptive and interpretive accuracy of that material. Two of the teachers requested minor changes to descriptive material; none requested changes to interpretive material. Member checking – which, Kvale (1996) stated, is a necessary component of the research process – enabled Grace, Zahra, Christopher and Catherine to shape, and verify, the accounts of their practice.
- the researcher had, or developed, a rapport with each of the teachers, and regularly assured each of the value of his/her participation. Thus, during video-recording and interview, each teacher presented candidly, thereby providing data that enabled the researcher to develop authentic descriptions and credible interpretations of their practice.

- the teachers' verbatim accounts of their pedagogy were quoted throughout the analyses, thus illuminating the connections between the findings and the data from which they were derived.
- rich description was used, transporting the reader to the settings wherein data was collected, and giving 'realism' to the findings (Charmaz, 2006).

Thus, the application of a range of authenticity-building strategies augmented the credibility of the research findings.

Sampling

In/for the main study, data were gathered from within two co-educational Tasmanian Department of Education primary schools (K-6) and two co-educational Department of Education high schools (7-10) located in, or within 50 kilometres of, Launceston, Tasmania. Details of each school are provided in Table 7.

Table 7

Contextual details of each school from which data were collected

School	Setting	Approximate number of students	ICSEA value (to nearest 10)
Primary School #1	Rural	380	980
Primary School #2	Metropolitan	320	850
High School #1	Semi-rural	300	950
High School #2	Metropolitan	420	930

A flexible, pragmatic approach to sampling was adopted. According to Marshall (1996), the process of sampling, or selecting participants, for qualitative research proceeds according to one, or, often, a blend, of three general approaches: *convenience sampling*, which involves "selection of the most accessible subjects" (p. 523); *judgement*, or *purposeful*,

sampling, in which "the researcher actively selects the most productive sample to answer the research question [by] developing a framework of variables that might influence an individual's contribution" (p. 523); and *theoretical sampling*, which "necessitates building interpretative theories from the emerging data and selecting a new sample to examine and elaborate on this theory" (p. 523). The process of recruiting participants for the main study reflected a blend of these broad categories. The aim of the main study was to assess, or test, the transferability of the 28-category KQ-E, or theory, that emerged during the pilot. Thus, the overarching approach to sampling was *theoretical*. As Marshall noted, "[t]he iterative process of qualitative study design means that samples are usually theoretically driven" (p. 523). The KQ-E emerged via analysis of pedagogy demonstrated by two early- to mid-career female teachers, Emily and Laura, in early childhood classrooms in a school in Auckland, New Zealand; thus, a new sample was needed to provide data that would enable the researcher to test the transferability of – and, perhaps, develop – the framework. Criteria for *judgement*, or *purposeful*, *sampling* were, then, established, the goal being to recruit teachers according to variables that might influence the pedagogy they demonstrated, including, particularly, years of experience and year-level being taught. Pragmatic concerns informed the sampling process, also. As Knobel and Lankshear (1999) noted, research must be manageable. Thus, selection of participants for the main study was based, partly, on (a) the researcher's ready access to particular schools (i.e., Department of Education schools, particularly those wherein the researcher had collegial contacts) and (b) the proximity of schools/teachers to the researcher.

Four teachers – Grace, Zahra, Christopher and Catherine – participated in the main study. Two were current or past colleagues of the researcher and agreed to participate after he contacted them directly; the other two, unknown to the researcher pre-study, were referred to him, and agreed to participate, via his network of collegial contacts. Together, they

represented, adequately, the criteria for purposeful sampling: teaching, respectively, Year 2, Year 4/5, Year 8 and Year 10 students, they demonstrated 'pedagogy of subject English' across early childhood, middle years and high school settings; also, Christopher was an early-career teacher, whereas Grace, Zahra and Catherine were mid-career teachers. The bulk of data-collection for the main study occurred during July, August, September and October (the latter half of the school year) of 2016, with some interview data collected later.

Data Collection

Preamble and data-collection schedule. According to Creswell and Plano Clark (2007) and Creswell (2009), the multi-methods format of the main study was, largely, *embedded one-phase*: 'embedded' because one qualitative data-set, the interview data, played a supportive role (i.e., was embedded, or 'nested') within a process concerned, primarily, with collection-analysis of qualitative data of a different type (i.e., observational/video-recorded); and 'one-phase' because the different types of data were collected concurrently, i.e., in 'one phase' (though some interview data were collected during a final, i.e., second, phase).

Each teacher was observed/video-recorded once per week for three weeks. Thus, 12 tracts of pedagogical activity were captured for analysis, each lasting between 45 and 100 minutes. Each teacher was, usually, observed/video-recorded on the same day, and at the same time, each week (e.g., every Thursday, 9:00am-10:40am), and always with the same students (e.g., Class 8B). Immediately following each period of observation/video-recording, the teacher was, if practicable, interviewed by the researcher.

The pilot study indicated that interview data were needed to *confidently* code the observational/video-recorded data. Burns (2000): "The implicit assumption behind observation is that behaviour is purposive and expressive of deeper values and beliefs" (p. 411). Sometimes, the application of a code to a moment of teaching demonstrated by Emily

or Laura relied, heavily, on researcher inference, because the beliefs, conceptualisations or decision-making that informed that moment were unknown – i.e., had remained unexplicated/uncaptured. For example, the researcher inferred, from moments of teaching demonstrated by Emily and Laura, that Pearson and Gallagher's (1983) Gradual Release of Responsibility (GRR) model informed their pedagogy; thus, he coded those (ostensibly exemplar) moments *Theoretical underpinning of pedagogy*. However, the (ir)relevance of the GRR model was unconfirmed by Emily and Laura, meaning the codings tended to reflect conjecture rather than certainty. Thus, to support accurate coding of the observational/video-recorded data – and, thereby, the validity of the findings – the observations of lessons were followed, immediately, by interviews, wherein the teachers explicated the beliefs, conceptualisations and decision-making that underpinned the pedagogy they had, during the previous 45-100 minutes, demonstrated.

If a post-lesson interview was impracticable, questions the researcher had regarding the teacher's pedagogical decision-making were documented and, then, posed during a later interview, after the researcher reminded the teacher of the pedagogical activity s/he had demonstrated – for example: "This was about 30-odd minutes into the lesson and you had gone through that quick draw task with the kids, so they had developed a really thorough literal comprehension of the poem. … What you did was read out [the last stanza of *The Killer*]" (Interviewer to Catherine, final interview, 03/08/2017, 00:23:44 - 00:24:22). A final interview was conducted with each teacher after all video-recording (+ post-lesson interviews), and transcription thereof, had been completed. Thus, 13 interviews, each between 30 and 45 minutes long, were captured/transcribed for analysis. Table 8 provides details of the teachers who participated in the main study and, also, the schedule of data-collection.

Table 8

Details of the teachers who provided data for the main study, and schedule of data-collection

Details of teacher				Data-collection schedule			
Pseudonym	**School**	**Years of experience**	**Year-level and age of students being taught**	**Date of observation /video-recording #1; Interview (Yes/No)**	**Date of observation /video-recording #2; Interview (Yes/No)**	**Date of observation /video-recording #3; Interview (Yes/No)**	**Date of final interview**
Grace	Primary School #1	8	Year 2, 7-8 years	21/07/2016 Yes	28/07/2016 Yes	04/08/2016 Yes	16/11/2016
Zahra	Primary School #2	16	Year 4/5, 9-11 years	20/10/2016 Yes	26/10/2016 Yes	02/11/2016 Yes	05/06/2017
Christopher	High School #1	2.5	Year 8, 13-14 years	20/07/2016 No	27/07/2016 No	03/08/2016 No	16/08/2017
Catherine	High School #2	9	Year 10, 15-16 years	14/09/2016 Yes	19/09/2016 Yes	21/09/2016 Yes	03/08/2017

Non-participant observation/video-recording. Jewitt (2012): "Video is increasingly the data collection tool of choice for [social] researchers" (p. 2), with modern camcorder technology enabling the ready collection of durable and easily-navigable records of social phenomena. Thus, during each of the non-participant lesson observations, the teacher's pedagogical activity was video-recorded. The researcher sat at a desk that was positioned, unobtrusively, at the back of the classroom. Beside him, the tripod-mounted video camera was configured to capture the space from which the teacher delivered the lesson – typically, the width of space at the front of the classroom, toward which students were physically oriented, and which included the whiteboard and, often, artefacts relevant to the English teaching that was being 'done'. The teacher wore a lapel microphone that was linked, wirelessly, to the audio input on the video camera: thus, his/her instructional talk was captured, clearly, above the general noise of the classroom. If the teacher moved out of the

space at the front of the classroom, the frame of the video camera was reoriented to capture the teacher's activity. Just as Rowland (2008) had noted, students' "spoken contributions were audible on the video-recording[s] if…picked up by the [lapel] microphone: for the most part, this included [students'] remarks during whole-class teaching portions of the lesson[s] and during seatwork portions when the teacher was working closely with an individual…or a group" (p. 279).

Following observation, the .MP4 files were, as soon as practicable, copied from the video camera to a password-protected folder on the researcher's University-provided notebook computer and, then, deleted from the camera's hard drive. The files on the researcher's notebook were periodically backed up.

During each of the observations, the researcher kept handwritten notes pertinent to the focus of the research; specifically, he began the process of analysis: on the Observation Protocol (Appendix H), he completed a preliminary, *in situ* chronology-coding of the unfolding lesson, recording:

- brief descriptions of moments of teaching;
- the time at which each of the moments occurred (as per the timestamp on the video camera); and
- the unit(s) and category(ies) of the KQ-E that pertained to each of the moments.

Burns (2000):

> Non-participant observation involves merely watching what is happening and recording events on the spot. … Observers typically label themselves non-participants when they minimise their interactions with participants to focus on attention unobtrusively on the stream of events. Non-participant observation emphasises the researcher's role as a dispassionate recorder. … In conducting

> studies in school settings, [however], investigators necessarily interact with teachers and pupils under consideration, even if only non-verbally, and become, to some extent, participants. This need not be a liability; it simply means that estimated consequences of being a participant must be noted in the report (p. 413).

Thus, the presence of the researcher and technology might, admittedly, have perturbed 'usual' classroom processes. However, apart from a small group of students in Grace's Year 2 class who waved, momentarily, at the video camera during a lesson, there was no evidence of the students being attentive to their classroom 'visitor'. Also, the demeanour of the teachers remained, it seemed, unaffected.

Shortly after each observation (usually the same day, sometimes the next), the researcher drafted a one-page descriptive synopsis of the lesson – composed, mostly, from memory, but informed, also, by details recorded on the Observation Protocol and, sometimes, reference to the video-recording. The descriptive synopses proved valuable *aide-mémoire*: immediately prior to each of the final interviews, the researcher and teacher read, together, the series of relevant synopses, thereby reacquainting themselves with the context to which the ensuing discussion would refer. Also, the preliminary codes the researcher had recorded on the relevant Observation Protocol documents informed the initial cycles of analysis of the pedagogy that Grace, Zahra, Christopher and Catherine demonstrated during the five selected lessons.

Semi-structured interviews. Each of the post-lesson and, later, final interviews was semi-structured, guided by a schedule of facilitative questions (see Appendix I and Appendix J) anent the research topic. The content of each of the schedules was developed collaboratively: researcher and supervisors met and, together, first-drafted the content of each. Informed by Lazarsfeld (1954), they considered, carefully: (1) *specification*, the focus

of each question; (2) *division*, the phrasing and sequencing of the questions; and (3) *tacit assumption*, the process of determining the 'true' meanings behind respondents' answers. The researcher's subsequent re-drafts of each of the protocols were, then, evaluated by his supervisors, who assessed, and provided feedback re, the appropriateness and completeness of the material. As Burns (2000) stated, "attention must be given to…*content validity*, which may be assessed by having some competent colleagues who are familiar with the purpose of the study examine the items to judge whether they are adequate [including] whether they are a representative sample of the behaviour domain under investigation" (p. 585). The principles of specification and division were, therefore, addressed via collaborative development of the schedules; the principle of tacit assumption, however, was addressed *during* the interviews, wherein the semi-structured format allowed the researcher to explore, via unscheduled questions, teachers' initial responses.

Post-lesson interviews. Each of the post-lesson interviews was conducted in the classroom where the observation/video-recording had just been completed, and lasted 20-40 minutes. The facilitative questions of the schedule provided "some consistency of data" (Roberts & Taylor, 1998, p. 163) while affording the teachers ample scope to articulate their beliefs, conceptualisations and decision-making. Applying the recommendation proffered by Kvale (1996) and, similarly, Taylor and Bogdan (1998), the researcher maintained a certain naïveté, thus encouraging detailed responses. Moreover, he followed O'Leary's (2004) "golden rule of interviewing…*Listen more than talk* (p. 168). Additionally, the semi-structured format gave the researcher opportunity to clarify and discover information pertinent to the project that, if unscheduled exploration were disallowed, would have remained ambiguous or hidden.

Follow-up interviews. Each of the final, follow-up interviews were conducted in the school's meeting room and lasted 30-40 minutes. The teachers précised their careers and

described their beliefs re the purposes of subject English. Also, specific content raised, previously, in the post-lesson interviews was, if necessary, revisited in greater detail. As May (1996) stated, "there is the fairly prevalent pattern of moving from [the] rather general to [the] more focused…as a study proceeds" (p. 194). Thus, the researcher's analysis-explication of the teachers' pedagogy is credible, having been informed by multiple layers of comprehensive interview data wherein particularly relevant topics were canvassed in successively greater detail (Kaplan & Succuzzo, 1997).

Audio-recording the interviews. Audio-recording is typically the method of choice for capturing interview data (Stewart & Cash, 1994; Kaplan & Succuzzo, 1997; Denscombe, 1998). Thus, each of the interviews was audio-recorded using a digital voice recorder, thereby affording the researcher a durable and easily-navigable record of all the dialogue that occurred therein. As Heritage (1984) observed, audio-recording is "an essential corrective to the limitations of intuition and recollection" (p. 283); that is, audio-recording ensures the veracity of the data (Peräkylä, 1997). Following each interview, the .wma file was, as soon as practicable, copied from the recorder to a password-protected folder on the researcher's University-provided notebook computer and, then, deleted from the recorder's hard drive. The files were, then, under provision of the *Powerful Knowledge* project, forwarded to an Australian-based transcription service for transcription (Appendix K). The transcripts were member-checked, with all teachers satisfied the transcripts faithfully captured the content of the interviews.

Selecting Data for Analysis

A goal of the main study was to check the viability of the nascent KQ-E – which had, during the pilot, been developed vis-à-vis the 'pedagogy of English' demonstrated by two early- to mid-career early childhood teachers in Auckland, New Zealand. *To what extent was the nascent KQ-E applicable beyond its immediate frame of reference?* Also, "credible

research [needs] to be designed with practicalities firmly in mind" (O'Leary, 2009, p. 165). Thus, from the sizeable volume of data gathered during the data-collection phase of the main study, a limited corpus was chosen for analysis:

- Grace's lesson of 21 July;
- Zahra's lesson of 26 October;
- Christopher's lessons of 27 July and 3 August; and
- Catherine's lesson of 21 September.

Introduced below, Grace, Zahra, Christopher and Catherine had each been video-recorded three times. From each collection of three video-recordings, one (or two[6]) was selected for analysis: researcher and supervisors identified, collaboratively, those video-recordings which, they judged, captured *diverse* pedagogical activity, including: whole-class, small group and one-to-one teaching; application of instructional procedures located within Pearson and Gallagher's (1983) Gradual Release of Responsibility model; use of a range of resources, including subject-specific lexes, to support teaching/learning; and purposeful and 'laissez-faire' instruction. Thus, the reduced data set made analysis practicable, yet, importantly, was 'fit for purpose', allowing the researcher to assess, rigorously, the transferability, and illuminate the potential, of the KQ-E. As Marshall (1996) said, "[a]n appropriate sample size for a qualitative study is one that answers the research question" (p. 523).

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[6] For Christopher, two video-recordings. As per Chapter 4, a considerable portion of each of Christopher's 70-minute lessons was devoted to viewing documentary material. During these periods of viewing, Christopher did not initiate or engage in any pedagogical activity. Thus, lengthy tracts of each video-recording contained material irrelevant to the project. Therefore, to analyse a body of data equivalent in volume to the body of data pertaining to each of the other teachers – Grace, Zahra and Catherine – the pedagogy demonstrated by Christopher across *two* lessons was selected.

Hereunder, Grace, Zahra, Christopher and Catherine are introduced. Each of a series of four descriptive profiles includes details regarding the respective teacher's (a) teaching qualification; (b) teaching career; (c) beliefs about the purpose(s) of subject English; and (d) briefly, the focus and content of the lesson(s) selected for analysis. These details are drawn, mostly, from the researcher's final, follow-up interview with the teacher. The date on which that interview was held is recorded beside the teacher's name, and quotes therefrom are timestamped. Any material from another interview is clearly indicated.

The Teachers: Grace, Zahra, Christopher and Catherine

Grace (final, follow-up interview: 16/11/2016). Grace has been teaching for eight years. She has a Bachelor of Education degree. She has been teaching at Primary School #1 for three years, "always on the [Year] two, three, four age group" (00:00:36 - 00:00:38), which, she says, "has been good for my experiences" (00:0046 - 00:00:49). Currently, she teaches a class of 21 Year 2 students. Prior to teaching at Primary School #1, she taught, for five years, at a small school (<100 students) in rural Tasmania "on the [Year] 2/3/4 class" (00:00:57 - 00:00:59). There, her principal had "really high expectations" (00:01:55 - 00:01:56) of teachers, which, Grace acknowledges, gave her "a really good grounding in teaching" (00:01:49 - 00:01:52): "you get good habits. You get to know things really well because…you have got that expectation that you have to know them" (00:02:05 - 00:02:18). She had, also, "lots of experienced quality teachers around [her] out there [at] that time" (00:02:25 - 00:02:32). Scope and sequence documents informed "a lot of whole-school planning…in…writing, reading and…speaking and listening" (00:03:38 - 00:04:00), and Grace valued opportunities to "moderate at bigger cluster groups [where she] could…talk to a teacher who had…the same grade as [her] and had work samples that were the same grade as [hers]" (00:05:37 - 00:05:50). Grace "like[s] to have [her year, term and weekly planning] organised and like[s] to know what to expect" (00:04:49 - 00:05:03); however, because she

"can 'read'…the kids" (00:20:15 - 00:2017), often "leave[s] it to the day before or even the morning before to get [her] tasks sorted" (00:22:01 - 00:22:06).

Re the purpose of English, Grace cited pragmatic/vocational interests: "[I]t's so we can get along in jobs and life. … I think it's so you have got that life skill, so you can read, so you can find out information for yourself, so you have got that ability to be able to enquire and to communicate, really. … You've got to know how to approach situations with different literacy skills" (00:08:12 - 00:09:26). She acknowledged, however, that different models of English may respond, better, to the preferences/needs of different groups of students. For the class of students that she had when she began teaching at Primary School #1, for example, a personal growth orientation was, Grace found, more appropriate: "[W]hen I came here…I had a really extrovert group of students. … To get them to read and write, it had to be their way. So…I had to change what I was doing because they didn't really respond to what I had…offered them. We ended up doing a lot more…creative writing because that's what they were into. We did a lot of speaking and listening, a lot of drama stuff, because they were so theatrical in their personalities" (00:15:06 - 00:16:04). Grace "like[s] the idea of all those [English] models. I feel like you do have to adjust a little bit in your teaching to what group you have" (00:17:21 - 00:17:31).

During the period of observation, Grace was teaching her students to write procedural text. She recognises, "from experience" (Grace, post-lesson interview, 28/07/2016, 00:02:29 - 00:02:30[7]), the range of demands – cognitive, affective and physical – that writing tasks pose for young learners: "[T]o start…you probably think, 'Oh, I'm going to go into [the] lesson and write a story or write instructions' and then…you think, 'Oh, that's too much for these children. That's too much information'" (00:06:38 - 00:06:50). However, "the more

[7] All quotes in this paragraph are from the post-lesson interview of 28/07/2016. Hereafter, only the timestamp is recorded.

you teach it, the more you realise actually how much each piece of writing has" (00:06:30 - 00:06:36) and "for a lot of them, it's such a hard task" (00:09:39 - 00:09:41): there are "[l]ots of things for them to think about" (00:09:59 - 00:10:01), including "[n]ew words, getting letters round the right way" (00:09:56 - 00:10:00) and "spacing to do" (00:09:54 - 00:09:55). Also, "their…motivation [has to be] quite high…[otherwise] they'll just become disengaged" (00:09:09 - 00:09:15). She appreciated, therefore, the range, and level, of support young learners need to complete writing tasks, including repeated opportunities to explore, and develop control of, generic language features: "But even last week, they struggled with an action verb to start their sentences so…it's just that experience of once you've had an experience, you sort of realise, 'I can't go any further unless I go back. … I think as an adult, you realise how much modelling you need to do and the more I model, the better I get out of the students" (00:04:32 - 00:05:04). The analysis of Grace's pedagogy is the first to be presented in Chapter 4.

Zahra (final, follow-up interview: 05/06/2017). Zahra has been teaching for 16 years. She has a Bachelor of Education degree. She has been teaching at Primary School #2 for seven years. Currently, Zahra teaches a class of 18 Year 4/5 students. She has worked in some disadvantaged schools, and the school at which she currently works is, also, "tricky" (00:04:52[8]). She has, however, "been lucky enough to fall into…schools that have had such amazing literacy leaders and supporters, and people have that been willing to give you…the professional learning…so you've been able to go, 'Okay, that works for that, I'll try that.' And so…when you're getting into those trickier classrooms, with the trickier kids…I've…got that repertoire of the background right from early childhood. Then I can start to apply that into those older children as well" (00:11:33 - 00:12:13).

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8 Zahra, post-lesson interview of 20/10/2016.

Re the purpose of English, Zahra cited personal and, particularly, pragmatic/vocational interests: "[It's] life, isn't it? It's actually hard to put into words, because it's the basis of everything. Speaking, writing, reading, being able to communicate to people. Being able to communicate on a friendship level, an academic level, and everyday level. It's the be all and end all, really" (00:15:37 - 00:16:02). English "is also…the basis of your Maths, Science, Geography and History, if you haven't got your English background or the basics you cannot understand the Geography and the History and the Maths" (00:16:45 - 00:16:55). Asked about which model, or models, of English she might emphasise, Zahra replied, "It would have to be all of them. When you were going through them I was thinking, 'Yes, I do that'…and the delving into the 'in' classics, knowing why the author wrote the way that they're writing…and getting them to enjoy [an] immense range of texts, it's the spelling" (00:18:56 - 00:19:29). She stated, too, that addressing each of the models is "something that, if you don't plan it, or organise yourself, you're not doing your students a service" (00:20:40 - 00:20:48).

During the period of observation, Zahra was teaching her students to write narrative text, using *Feathers and Fools* (Mem Fox, author; Nicholas Wilton, illustrator) to demonstrate effective language choices and, also, explore "tension that's happening in the class at the moment, especially with some of the boys being very physical" (00:07:11 - 00:17:16[9]). Zahra is "very centred to the students…and…think[s] being in schools…such as [Primary School #2]…that…have so many children that are so illiterate, and families that are, you tend to focus on the student and the background of each student" (00:12:53 - 00:13:11). Her English teaching-learning program is informed by her "knowledge…of these children and knowing that their entry point needs to be base grade so that they can do it at their understanding and it has had tremendous success with what we looked at in the last

9 Zahra, post-lesson interview of 26/10/2016.

couple of days with the book" (00:06:49 - 00:07:06[10]). The analysis of Zahra's pedagogy is the second to be presented in Chapter 4.

Christopher (final, follow-up interview: 16/08/2017). Christopher has been teaching for two-and-a-half years. He has a Bachelor of Arts degree and a Master of Teaching degree. Aside from "some relief work at XXXXX [High School] at the end of [2013]" (00:02:23 - 00:02:25), High School #2 is the only school at which Christopher has taught.

Re the purpose of English, Christopher cited personal growth and, also, pragmatic/vocational interests:

- "…that's what I would think of English as, like a personal growth, as well as that little bit of preparation for post-education and that kind of stuff" (00:06:16 - 00:06:25).
- "I guess it explores, like friendship and relationships as well as love and violence and those kind of things, which is still relevant today" (00:08:21 - 00:08:28).
- "…that's a theme that we've had right throughout this year in English…friendships and relationships. Unlikely friendships…unlikely relationships" (00:08:41 - 00:08:55).
- "…we're doing an essay because we're learning to write a structured piece of writing because I might be able to use that somewhere later on" (00:29:20 - 00:29:27).

For Christopher, "English is all about learning the fundamentals of life in a roundabout kind of way, so it's reading and writing which are super important, they're pretty much everything, as well as speaking and listening…and those kind of things. So I've always thought that English is a really important part of the school life, but…my belief's always to be, make sure that the tasks that we're doing have some sort of real world focus or

10 Zahra, post-lesson interview of 02/11/2016.

a connection that the students can take that skill and use it hopefully in the future, and so that that's what I think around English and hopefully how I go about it" (00:03:26 - 00:03:56).

During the period of observation, Christopher was teaching a unit of work on survivors, using a series of documentary films to explore the psychological characteristics of people who became lost/stranded in, and survived, hostile natural environments (e.g., desert, jungle). He was "very enthusiastic about [his Year 8] kids getting in and having a go and improving their skills as they go and achieving…just getting in and having a go" (00:06:02 - 00:06:14). The documentary films were, he believed, "good examples of overcoming adversity" (00:17:23 - 00:17:24) and, consistent with a personal growth emphasis, "students…could see people overcoming adversity, problem solving, starting to think about how these people got themselves into this situation for a start, and then how they managed to get out of them" (00:17:53) and "apply it to [their lives]" (00:28:18 - 00:28:19). The analysis of Christopher's pedagogy is the third to be presented in Chapter 4.

Catherine (final, follow-up interview: 03/08/2017). Catherine has been teaching for nine years. She has a Bachelor of Education degree. After graduating, she spent a year overseas, teaching English "in junior high school, Grade 7 to 9. … I also did one day a week in a primary school. … I learnt a lot about teaching different age groups and different dynamics" (00:03:22 - 00:04:09). On returning to Tasmania, she began working at High School #3: "It was predominantly a [foreign language teaching] load with one English class…at the time" (00:06:13 - 00:06:19). Of High School #3, Catherine said, "[the school] gave me a lot of opportunities to upskill in high school English teaching" (00:07:36 - 00:07:40), including in "teaching models such as the gradual release [of] responsibility and how to do that. … I got a lot of PL on that and mentoring from staff and through English team meetings and things" (00:08:14 - 00:08:27). Catherine has been a Literacy Specialist

Teacher at another high school near Launceston, supporting students who were below the national minimum standard in literacy (reading, writing, language conventions).

Re the purpose of English, Catherine cited cultural heritage, personal growth and pragmatic/vocational needs: "I think there is a very big difference between English as a subject and literacy skills…that students need to be able to function out there in the big wide world. I think that English literature as a high school teacher, I think that's really important. … Books, films, opens up that opportunity to be exposed to different experiences and different countries and cultures that maybe we wouldn't be able to. It teaches us more about ourselves and about big world ideas, I guess. I think that's a really important aspect of English. I think it's a big part of the English role to teach those big ideas through literature. Then I see the other side of it is those literacy skills. ICT comes into that, being ICT literate, being able to have basic reading and writing skills is so important. … Although with that literature you need those literacy skills. I almost see them as separate subjects. One is more a skill base. Whereas the other one is that thinking about those big ideas. I guess that's where I see English as an English teacher. I try and provide a balance of those two areas. The curriculum is broken up into three different sections but it all intertwines. I'd like to see more time given so that those two things could be given the justice that they need in a way because literacy comes into then all subject areas, all domains. Without those skills, students can't access the curriculum in most areas. Literature is a whole different level. Understanding and appreciating…books or learning about the past through that or themes or current issues, as well. … It is hard to balance. As an English teacher in high school I would like to focus more on the literature and then hopefully the other teachers can help teach the literacy skills but it doesn't happen as much. You really do have to focus because that's the now priority, the immediate priority, on literacy" (00:12:39 - 00:16:25).

Catherine believed "students need to have really good literacy skills so that they can live the best life for them…but my overall belief about education and school should be that it's making a well-rounded person and a knowledgeable person on a broad area, not just preparing students for the world of work but being knowledgeable and understanding how the world works and appreciating other cultures and understanding about history and everything and I think…for some students…school is the only chance and time that they are going to have…that exposure to that rich learning. I think that's important and I don't think school is just there to prepare people just to be able to go to work because there is more to life than that" (00:18:20 - 00:19:44).

During the period of observation, Catherine was teaching her Year 10 students to analyse poetry – specifically, *The Killer* by Australian poet Judith Wright (1915 - 2000). In *The Killer*, the narrator-protagonist, on pausing to drink at a creek on a hot day, is startled by, and kills, a large black snake. Catherine supported her students to analyse Wright's poem using the *SPECS and SLIMS* framework – identifying and discussing, for example, the figurative language (e.g., simile, metaphor) used therein. The unit culminated with students presenting their analyses, written in formal essay style, for assessment. The analysis of Catherine's pedagogy in the fourth to be presented in Chapter 4.

Analysis of Data

Analysis of each of the selected video-recordings/transcripts of the teachers' pedagogy proceeded as per the process developed during the pilot. As Willig (2013) noted, "grounded theory is not something that is 'performed' by different researchers in exactly the same way; *every researcher will need to tailor the approach to suit their particular research purpose* [emphasis added]" (p. 75). Thus, the efficacy of the process developed during the pilot justified its re-application in/for the main study – augmented, of course, by the addition of the interview data, which informed/supported accurate coding of moments of teaching.

All of the talk 'done' by Grace/Zahra/ Christopher/Catherine during the selected lesson(s) was transcribed by the researcher, then presented/segmented on the coding instrument and coded. Coding was meticulous, accomplished via multiple/successive readings of those data and, also, the interview transcripts. Even the process of writing the analysis of each of the lessons (see Chapter 4) sometimes prompted re-examination and re-coding of the data: the mentally attentive process of capturing, verbally, the results of initial cycles of analysis brought the researcher even closer to the data, and this intimate 're-attention' sometimes occasioned further cycles of analysis, triggered when the researcher would identify evidence of the applicability of the KQ-E that had, previously, been overlooked. T. Rowland recognised the need to review the data: "I've been struck by the fact that my own analyses have sometimes 'missed' possible codings (noticed by others later)" (personal communication, June 29, 2017). Each lesson transcript was, from start to finish, meticulously read and re-read, analysed/coded and re-analysed/coded, by the researcher 10+ times (sometimes in collaboration with a member or members of his supervisory team) until theoretical saturation was achieved. Always, the researcher was "actively engage[d] in close and detailed analysis of [the] research materials, [thereby] stimulat[ing] and discipline[ing] the theoretical imagination" (Pidgeon & Henwood, 1997, p. 255). Detailed analyses of the pedagogy demonstrated by Grace, Zahra, Christopher and Catherine are presented in Chapter 4.

Chapter Summary

Replicating, largely, the research process employed by Rowland et al. (2005, 2009) and Rowland (2008), (a constructivist) semi-grounded theory, applied within the context of instrumental multiple case methodology, was the strategy of inquiry that was used to address the research questions. Via a pilot study, which utilised data from the *Powerful Knowledge* project, a method of data presentation/analysis was developed; moreover, the findings of the

pilot indicated that further research was, indeed, warranted. Thus, upon addressing ethical desiderata, the main study proceeded. Data were gathered from classrooms in DoE primary and secondary schools in and around Launceston, Tasmania: four teachers were observed/video-recorded 'doing' English teaching and, then, interviewed re the pedagogy they demonstrated. From the 12 video-recordings that were collected, five were selected and prepared for analysis. Analysis of the lesson transcripts was complemented/supported by reference to relevant interview data and literature. The methodology incorporated several strategies to ensure the credibility of the findings. As a precursor to those findings, each of the categories of the *Knowledge Quartet – English* (KQ-E) is, hereunder, explicated.

The Categories of the *Knowledge Quartet – English*

The development of the following catalogue of category expositions was a key outcome of the pilot study. Drafted first, the expositions of the 20 categories of Rowland et al.'s (2005, 2009) KQ were checked by T. Rowland for correctness of meaning: "[Y]our exposition[s] [are] in line with my own understanding" (personal communication, May 1, 2017). Drafted later, the expositions of the new categories distinctive to the KQ-E derived from scrupulous intellectual activity on the part of the researcher and his supervisors, including examination of relevant literature. Thus, the catalogue of category expositions, presented in Table 9 (below), provided a sure basis on which to complete the four analyses that comprised the main study, and which are presented in Chapter 4.

Table 9

Expositions of the categories of the Knowledge Quartet – English

Dimension	Category (and abbreviation)	Exposition
Foundation	Theoretical underpinning of pedagogy (TUoP)	Concerns "a teacher's use of a theoretical foundation to guide instructional decisions" (Knowledge Quartet, 2012, Theoretical underpinning of pedagogy, para. 1), wherein 'theoretical foundation' means a corpus of: (a) knowledge of "factors that are significant in the teaching and learning of [subject English]"; and (b) "beliefs relating to the teaching and learning of [subject English] and the nature of [the content of subject English]". Thus, *Theoretical underpinning of pedagogy* pertains to subject-specific knowledge and beliefs that inform the process of teaching that subject: 'I know and believe *x*, *y* and *z* about this particular subject; thus, I'll teach it this way.' As Scholes (1985) stated, "teaching and theory are always implicated in one another" (p. 102). What, for example, might a teacher of subject English who "invites and affirms multiple readings [of a literary text] instead of a right reading and [asks students] where those readings have come from" (Elbow, 1990, p. 52-53) know and believe about literature? What might a teacher who carefully scaffolds students' planning, drafting and publishing of a persuasive text know and believe about writing? A teacher's theoretical underpinning of pedagogy is "implicit through lesson observation [and] revealed explicitly later through post-observation interview" (*Knowledge Quartet*, n.d., Scenarios: Theoretical underpinning of pedagogy, para. 2).
	Awareness of purpose (AoP)	Concerns a teacher's awareness of the specific learning that students are expected to achieve and demonstrate by the end of the lesson; might be linked to broader unit-level and/or curriculum goals. *Awareness of purpose* is demonstrated via the stated learning intentions (e.g., 'Today, we are learning to…') and/or attempts to invoke and illuminate student activity (including cognition) related to those learning intentions (e.g., 'STUDENT, show us how you…'; 'STUDENT, tell us why you…'; 'STUDENT, explain how you…').
	Identifying pupil errors (IPE)	Concerns a teacher's capacity to identify student misconceptions and respond appropriately (e.g., to recognise that students' literal comprehension of a text is problematic and, thence, provide remediatory explanations and/or tasks).
	Overt display of subject knowledge (ODoSK)	Concerns a teacher's demonstration of subject matter knowledge (SMK); that is, that s/he knows, intimately, the subject matter that is the focus of teaching-learning. *Overt display of subject knowledge* is triggered when the teacher is judged to have drawn on a rich (i.e., deep, profound) vein of SMK to develop and provide a pedagogically powerful episode (of instruction). *Overt display of subject knowledge* is inferable through observation of the teacher's classroom activity; however, is often more clearly revealed in post-lesson interview, when the teacher can expound the SMK that informed his/her teaching.
	Use of English terminology (UoET)	Concerns a teacher's accurate use of precise subject English terminology, and efforts to teach that terminology to students (e.g., by referring to, and requiring students to refer to, the structural components of a narrative as *orientation*, *complication*, *resolution* instead of *beginning*, *middle*, *end*).

Foundation	Adherence to textbook (AtT)	Concerns the extent to which a teacher adheres to the program of teaching-learning set out in a textbook. Adherence might be rigid, intimating a lack of specialised content knowledge, or critical, wherein the teacher judges the quality of the textbook material against his/her (a) SMK and (b) knowledge of students, and makes necessary modifications. Rigid adherence is, likely, directly observable (factors therefor, however, are illuminated in post-lesson interview); critical adherence is, likely, inferable through observation, but confirmed and expounded in post-lesson interview.
	Concentration on procedures (CoP)	Concerns teaching that conceives of, and presents, content as rules that must be learned and followed (e.g., in Mathematics, teaching standard algorithms without attending, also, to conceptual understanding). Vis-à-vis subject English, *Concentration on procedures* might, for example, apply to instruction concerning grammar, punctuation or spelling.
	Choice of text (CoT)	The category concerns a teacher's selection of text (literary, media, everyday, workplace) to motivate and inform teaching-learning. According to NSW Department of Education (2016, Introduction to Textual Concepts in English: Where do I start?), two questions inform English teachers' selection of text: (a) "What outcomes do students need to achieve? (What do the students need to learn and be able to do?)"; and (b) "What text/s will enable students to engage with, understand and appreciate the concept/s [and/or process(es)]?" (para. 3). Thus, a text is selected by a teacher because, through its subject matter, form/s, features and language, particular concepts (e.g., genre, perspective, representation) or issues (e.g., coming-of-age, conflict) can be explored, or reading processes (e.g., decoding, creating images, making inferences) introduced, practised and refined.
Transformation	Teacher demonstration (TD)	Concerns a teacher demonstrating to students the process of completing a particular activity (e.g., skimming and scanning a text; reading own writing to self to identify grammatical errors). In the context of subject English teaching-learning, teacher demonstration may take the form of one of several *instructional procedures* (see *Use of instructional procedures*).
	Use of instructional materials (UoIM)	Concerns a teacher's development, selection, modification and use instructional materials (e.g., proformas, worksheets) to support student learning.
	Choice of representations (CoR)	Concerns the illustrations and representations a teacher uses to make knowledge accessible to students (e.g., using the image of a hamburger to represent the structure and content of a paragraph).
	Choice of examples (CoE)	Concerns a teacher's provision of examples to develop students' understandings of concepts and acquisition of skills. Effective examples are carefully developed/selected and: • are connected to the purpose of the lesson; • engage the students intellectually; • are realistic; • are correct and/or clearly illustrate what students' work should look like; and • address misconceptions.

Transformation	Use of instructional procedures (UoIP)	Concerns a teacher's use of instructional procedures to support learning. In the context of the pedagogy of subject English, the meaning of *instructional procedures* is particular, referring to "meaningful contexts for focusing on selected parts of the reading [or writing] process" that "[involve] varying degrees of responsibility for both the teacher and student" as per "[Pearson & Gallagher's (1983)] Gradual Release of Responsibility Model" (Annandale et al., 2004, p. 5). The instructional procedures are: • for the teaching of reading (in order from high degree of teacher control to high degree of student control): Reading to Students; Modelled Reading; Language Experience; Shared Reading; Guided Reading; Book Discussion Groups; Independent Reading • for the teaching writing (in order from high degree of teacher control to high degree of student control): Modelled Writing; Language Experience; Shared Writing; Interactive Writing; Guided Writing; Independent Writing; Author's Chair
Connection	Making connections between procedures (MCbP)	Vis-à-vis mathematics teaching, refers to a teacher's elucidation of connections between procedures – for example: • that subtraction is the inverse of addition • that division is the inverse of multiplication • that finding the square root of a number is the inverse of squaring that number • that formulae can be rearranged to make different variables the 'subject' Relationships between procedures are identified and elucidated. Vis-à-vis the pedagogy of subject English, *Making connections between procedures* might apply to instruction that concerns the rule-bound 'systemness' of the English language; that is, to the different elements of the English language and the rule-bound interconnections between them (which enable a functioning whole): for example – letter → word → phrase → clause → sentence → paragraph → whole text; syntax, including language features like nominalisation; affixes; phoneme-grapheme relationships and spelling patterns; punctuation.
	Making connections between concepts (MCbC)	Concerns a teacher's efforts to elucidate for students connections within and between concepts. For example: • within the concept of 'character', connections can be made between "verbal or visual statements about what that fictional person does, says and thinks and what other fictional characters and the author of the text say about him or her…[enabling the reader, listener or viewer to] imagine a person-like character, sufficiently individualised and coherent to establish the sense of an identity" (NSW Department of Education, 2016, Textual concepts: Character, para 1). Connections might also be drawn *between* the character and other concepts (e.g., point of view; thematic concerns; personal, social and cultural values). • within the concept of the persuasive genre, connections can be made, for example, between the nature of the issue under consideration and the most effective method(s) of persuasion: appeal(s) to ethos, logos or pathos; the writer's position and distinct lexical/grammatical choices. Connections might also be drawn *between* the persuasive genre and other genres (e.g., in terms of structure, distinguishing language/grammatical features) or between different texts that each constitute a form of the persuasive genre (e.g., discussion cf. exposition; or analytical exposition cf. hortatory exposition).

Connection	Anticipation of complexity (AoC)	Concerns a teacher's anticipation of, and efforts to circumvent or counter, misconceptions that students might develop, or mistakes they could make – thus directing them clear of erroneous, or ineffective, pathways (Rosenshine & Meister, 1992). Anticipating complexity "requires…a good understanding of the demands of specific tasks" (Hammond & Gibbons, 2001, p. 6). *Anticipation of complexity* is inferable through observation of the teacher's classroom activity; however, is often more clearly revealed in post-lesson interview in response to questions from the interviewer.
	Recognition of conceptual appropriateness (RoCA)	Concerns a teacher's selection of material for teaching that is conceptually appropriate for students. Selection of conceptually appropriate material is made according to numerous factors, including: students' personal backgrounds and social needs; assessment data; curriculum requirements; teacher knowledge bases and beliefs (as per *Foundation: Theoretical underpinning of pedagogy*). *Recognition of conceptual appropriateness* is inferable through observation of the teacher's classroom activity; however, is often more clearly revealed in post-lesson interview in response to questions from the interviewer.
	Decisions about sequencing (DaS)	Concerns a teacher's decision-making regarding the sequence in which content is presented to students; this is, that material is presented to students "in an appropriately progressive order" (Rowland et al., 2009, p. 36). Vis-à-vis the pedagogy of subject English, the following two categories – *Pedagogical cohesion: Macro-level scaffolding* and *Pedagogical cohesion: Micro-level scaffolding* – may prove more serviceable.
	Pedagogical cohesion: Macro-level scaffolding (PC:Mac)	Concerns the process of connecting-elaborating teaching-learning across lessons. Pedagogically, each lesson within a program of instruction is an elaboration of its antecedent(s), and thus consolidates and/or expands and/or hones students' prior learning. Macro-level scaffolding is informed by unit-level learning intentions: "the [learning] goals of any one specific lesson need to be located within the broader framework of a planned program with its own clearly articulated [learning] goals" (Hammond & Gibbons, 2001, p. 6). Thus, macro-level scaffolding is 'designed-in' (Sharpe, 2001) and, vis-à-vis the pedagogy of subject English, might, for example, be reflected in the teacher's application of instructional procedures (see *Use of instructional procedures*). *Pedagogical cohesion: Macro-level scaffolding* is observable; however, is expounded during post-lesson interview.
	Pedagogical cohesion: Micro-level scaffolding (task-level and point-of-need) (PC:MicTL; PC:MicPoN)	Concerns the process of connecting-elaborating teaching-learning within a lesson. Pedagogically, each episode within a lesson elaborates the one(s) before, thereby systematically developing the breadth and depth of student knowledge, understanding and capacity. Micro-level scaffolding is informed by lesson-level learning intentions and, also, is "based on, and responsive to, students' current understandings. It is characterised by how well the teacher is able to judge the need and quality of assistance required by the learner, and related to the way in which help is paced on the basis of students' developing understandings" (Hammond & Gibbons, 2001, p. 5). Thus, designed-in, or task-level, micro-level scaffolding (i.e., the planned architecture of the lesson, static supports) is, often, supplemented by 'point-of-need' micro-level scaffolding (i.e., transactions with students that support learning). *Pedagogical cohesion: Micro-level scaffolding* is observable; however, is expounded during post-lesson interview.
	Connections within text (CwT)	Concerns a teacher supporting students' reading development and comprehension of text by illuminating the internal logic of the text (e.g. by highlighting the relationship between the print and illustrations; by highlighting cohesive ties [e.g., between nouns and pronouns]; by highlighting synonymous words and phrases).

Connection	External connectivity: Text-to-self connection (EC:TtSC)	Concerns a teacher's efforts to support students' comprehension of a text by making, and/or prompting the students to make, a connection/comparison between the text and personal experience.
	External connectivity: Text-to-world connection (EC:TtWC)	Concerns a teacher's efforts to support students' comprehension of a text by making, and/or prompting the students to make, a connection/comparison between the text and knowledge of the world.
	External connectivity: Text-to-text connection (EC:TtTC)	Concerns a teacher's efforts to support students' comprehension of a text by making, and/or prompting the students to make, a connection/comparison between the text and another text.
Contingency	Responding to students' ideas (RtSI)	Concerns a teacher's response to "the *unexpected* [emphasis added]" (Rowland et al., 2009, p. 37; emphasis added); that is, to student input that may "hijack" (Rowland et al., 2005, p. 276) the lesson – particularly such input that arises during periods of small group or whole class teaching, given the exemplar vignettes offered by Rowland et al. (2005) and Rowland et al. (2009). Triggers include: • a student's response to a question from the teacher • a student's voluntary response to a task or contribution to a discussion • a student's incorrect response (to a question or as part of a discussion) The teacher's response may take the form of: ignore; acknowledge but set aside; acknowledge and incorporate.
	Deviation from lesson agenda (DfLA)	Refers to a teacher's response to significant concerns regarding students' learning (e.g., gaps in prior knowledge, incorrect or poorly justified responses to questions). The teacher departs from the planned tract of instruction, introducing additional and/or alternative content and/or processes that will help to successfully address concerns. The teacher might, for example: • demonstrate deeper subject matter knowledge to enhance students' understanding • devote time to questioning to determine why a student offered an incorrect response • present the concept or process differently • illuminate a concept or process with an example from everyday life
	Teacher insight (TI)	Concerns a teacher's efforts to fine-tune the content and/or course of a lesson in response to reflecting-in-action and/or student input. Examples of *Teacher insight* include: • realising that perhaps something else might work more effectively and explaining why • saying, 'Gosh, I hadn't thought of that' and responding accordingly; or, 'Let's retrace our steps' • recognising that a comment that appears to lack a logical basis means the student is, perhaps, in a zone of proximal development (ZPD), and responding accordingly (i.e., via point-of-need micro-level scaffolding) • asking questions to elicit the basis of a student's thinking

Contingency	Responding to the (un)availability of tools and resources (RtATR)	Concerns a teacher's response to the (un)availability of tools and resources – for example: • by drawing on alternative knowledge resources, and/or making significant epistemological accommodation, in response to the lack of an intended technology or resource • by drawing on alternative knowledge resources, and/or making significant epistemological accommodation, in response to the availability of an unplanned technology or resource • in response to the failure of technology or lack of an expected resource, by identifying an alternative means of explaining a concept or demonstrating a procedure in the manner intended

Chapter 4: Results and Analysis

Introduction

The chapter is comprised of detailed analyses of the pedagogy-of-subject-English demonstrated by the four teachers: Grace, Zahra, Christopher and Catherine. Immediately hereunder, a preamble outlines the common format of the analyses. Thereafter, the analyses are presented consecutively, in ascending order by grade-level:

- the analysis of Grace's pedagogy/lesson with her Grade 2 class is presented first;
- the analysis of Zahra's pedagogy/lesson with her Grade 4/5 students is presented second;
- the analysis of Christopher's pedagogy/lesson with his Grade 8 class is presented third; and
- the analysis of Catherine's pedagogy/lesson with her Grade 10 class is presented fourth.

The chapter is concluded with a summary, in which the results of the four analyses are précised and the content of Chapter 5 is flagged.

Chapter 4 is long (almost 300 pages). The analyses are exhaustive: each covers the whole of the lesson, and every individual instance of applicability of the KQ-E is documented. As well, the profiles of applicability that emerged at different stages of the lesson are detailed. Significantly, the four analyses, together, demystify the process of conducting and presenting KQ-based examinations of pedagogy. Hitherto, such information was unavailable. The common format of the analyses is outlined below.

Preamble to Analyses

The four analyses are similarly presented, each beginning with a descriptive synopsis of the observed/video-recorded lesson. At 1000-1500 words, this descriptive synopsis provides a detailed chronology of the lesson and, moreover, contextual backdrop to the analysis that follows. Reflecting the cascade form of the KQ-E, analysis of the teacher's pedagogy is, initially, broad, and becomes increasingly granular as analysis proceeds. An analytical synopsis of the lesson – presented, primarily, via a series of tables – supplements the preceding descriptive synopsis and prefigures the granular analysis that follows. The analytical synopsis – and, specifically, the tables therein – re-presents, and illuminates, the architecture and interactional fabric of the lesson, situating tasks and transactions within the ecosystem of teaching-learning. Moreover, it indicates which dimension(s) and category(ies) of the KQ-E apply to each moment of teaching. The tables that form the bulk of the analytical synopsis constitute a condensed version of the coded lesson transcript (Appendix G). Between the coded lesson transcript and the tables, nomenclature is consistent: as per Figure 2, the brief descriptive label that was applied to each moment of teaching in the coded transcript is transferred to the corresponding cell in the 'Moment of teaching (unit of analysis)' column of the tables (see Arrow 1). Descriptive labels that were applied to each of the main parts of the lesson (see Arrow 2), and to the elements and sub-elements of the lesson (see Arrow 3), have likewise been transferred. The dimensions and categories that apply to the moments of teaching have also been transferred, and are indicated by the abbreviated category names that appear in the columns under 'Applicable dimension(s) and category(ies) from the KQ-E' (see Arrow 4).

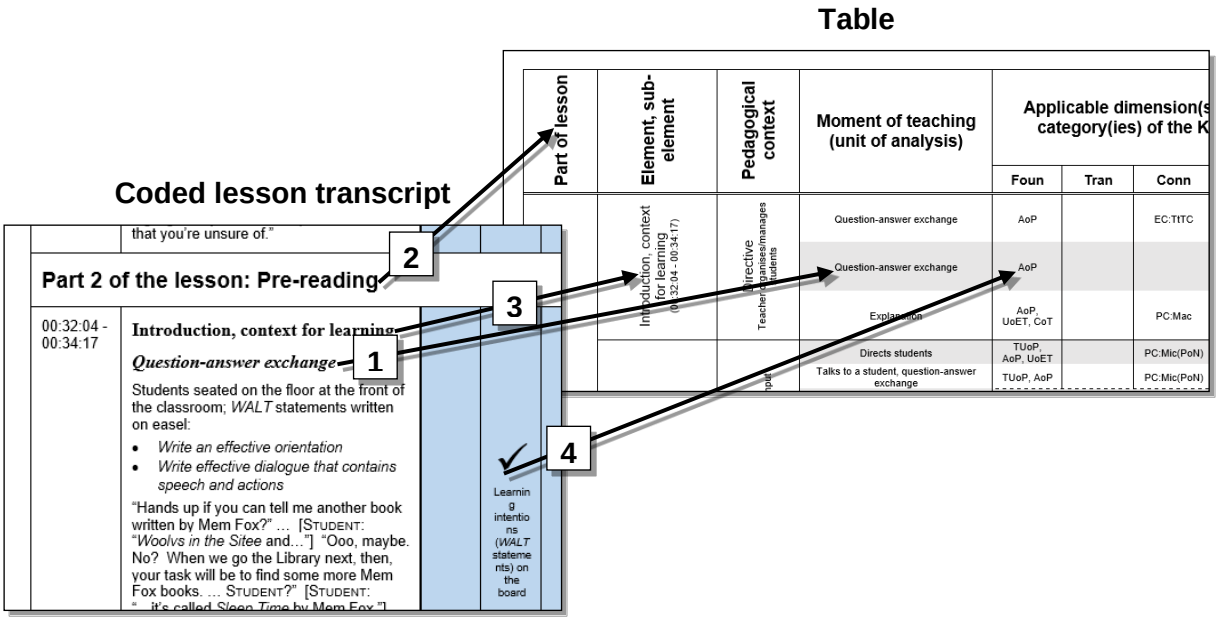


Figure 2. Consistency between the information in the coded lesson transcripts and the tables that appear in the sections *Analytical synopsis of lesson* of this chapter.

Often, multiple dimensions and/or categories apply to a moment of teaching. The tables include, also, a stratum of information absent from the coded transcript: the details in the column 'Pedagogical context' provide a sense of the general nature of the pedagogy within which each moment of teaching was situated, thus adding a supplementary layer of meaning to the data. The analytical synopsis is related to Research Question 1 and its subsidiaries: *To what extent is the content of the KQ applicable to the pedagogy of subject English?*

- *What categories of the KQ are applicable to the pedagogy of subject English?*
- *Are there components, or facets, of the pedagogy of subject English that cannot be captured by categories of the KQ; and if so, what revisions can be made to the framework to accommodate those components/facets?*

The analytical synopsis is followed by a section called *Realisation*, which begins with a frequency count – presented tabularly and graphically – of the dimensions and categories of the KQ-E that apply to the teacher's pedagogy-of-subject-English. Together, the content of

the table and bar graph provides a summary of important details from the previous section, *Analytical synopsis of lesson*, and, also, prefigures the granular analysis that follows – namely, detailed descriptions of *how* the applicable categories from the KQ-E relate to, or were actualised through, the teacher's pedagogy, beginning with an account of the applicability/realisation of the categories from Foundation, followed by similar accounts for the categories from the dimensions Transformation, Connection and Contingency. Every instance of applicability/realisation is described and discussed, thereby rigorously demonstrating the conceptual scope and validity of each of the relevant categories – and, therefore, the rigour of the KQ-E. Many of the moments of pedagogical activity demonstrated by the teachers were captureable by two or more categories and/or dimensions of the KQ-E: "[pedagogical] moments…within a lesson can be understood in terms of two or more of the…[dimensions and/or categories]" (Rowland et al., 2005, p. 259). Throughout the section *Realisation*, these instances of co-coding are acknowledged (having been indicated, first, in the tables in the previous section, *Analytical synopsis of lesson*). The section *Realisation* is the longest in each of the four analyses, and tables are regularly used to organise and improve the readability of material. The accounts of the applicability/realisation of categories include corroborating data from post-lesson interviews and, also, references to scholarly literature. The *Realisation* section of each analysis is related to Research Question 2: *What do the categories of the KQ, and any new categories, 'look like' in the context of the pedagogy of subject English? What do they capture?*

The section *Realisation* is followed by a section called *Implications.* In this section, actual and opportune codings that applied to the teacher's pedagogy are described and discussed; then, in light of those descriptions and discussions, suggestions are made regarding how the teacher might develop his/her pedagogy – perhaps, for example, by developing his/her content knowledge, or by reconfiguring the content and architecture of the lesson.

Importantly, this review of the pedagogy demonstrated by the teacher – as revealed by application of the KQ-E – is *not* completed from a deficit perspective; rather, the review indicates the kinds of opportunities for professional activity that application of the framework might occasion. As per Chapter 2, research (e.g., Strong & Baron, 2004) has indicated that colleague-provided feedback to teachers addresses, typically, generic issues, while "[v]ery little is said about the actual content being taught" (Rowland et al., 2009, p. 12). This section of the analysis, then, provides a sense of the potential of the KQ-E to illuminate content-specific issues related to teachers' teaching of English. As per Chapter 1, the claim driving this research concerns the value of a KQ for English. A KQ-E, that claim asserts, would constitute a dedicated, empirically-derived framework of/for analysis of the pedagogy of subject English, thus enabling teachers of English to identify and consider, individually or collegially, discrete and/or interrelated categories of pedagogical activity, and the consequences thereof for students' learning – with a goal, then, of adapting pedagogy to respond to the needs of students engaged in the process of constructing knowledge and developing skills that comprise the content of subject English. The *Implications* section of each analysis is related to Research Question 3: *What potential might a KQ for subject English have, or demonstrate, to enhance the pedagogy of teachers of subject English?* Each analysis concludes with a brief summary, in which salient findings pertaining to each of the research questions are presented.

Levels of comprehension. Each of the lessons selected for analysis focused – either substantially or, at least, partly – on developing students' comprehension of text. "There are different types of comprehension…different levels at which texts can be comprehended" (Fellowes & Oakley, 2014, p. 300). The levels of comprehension variously addressed by Grace, Zahra, Christopher and Catherine were:

- literal-level – remembering/retrieving and understanding information explicitly stated in the text;
- inferential-level – 'reading between the lines', recognising an idea that is suggested or implied by the text, but which is not explicitly stated;
- appreciative-level – understanding and responding to the text according to personal experience, beliefs and values; and
- essential-level – identifying themes/'big ideas' addressed by the text.

(Fellowes & Oakley, 2014)

Also, text form knowledge – that is, knowledge of the structures and linguistic features of a range of texts (Annandale et al., 2004) – was addressed by Grace, Zahra and Catherine. Text form knowledge supports reading/comprehension and writing.

The chapter turns, now, to analysis of the pedagogy-of-subject-English demonstrated by Grace in a lesson with her Year (Grade) 2 primary school students. The lesson, described below, was conducted mid-way through the school year.

Grace:
Year (Grade) 2 Primary School Subject English Lesson

Descriptive Synopsis of Lesson

Grace has 21 students in her Year 2 class, four of whom were absent on the day of observation. One of her students is on the Severe Disability Register (SDR) and, as such, has an Individual Education Program (IEP). He received Teacher Aide support for some of the lesson. The lesson started routinely. Students began to enter the classroom 15 minutes before the official start of the school day. Upon entering, they collected their spelling booklets from the trays beneath the whiteboard at the front of the room, took a seat at a desk and completed the tasks on the relevant page (e.g., the Thursday page), which included 'Look, Say, Cover, Write, Check' (LSCWCh) and a supplementary activity such as listing a synonym for each of their spelling words or listing a word (or words) that rhymed with each of their spelling words. Students took their completed work to Grace for checking before moving to a free choice activity (such as playing an educational game on the computer, reading, or building with LEGO).

After checking the work completed by each student in his/her spelling booklet, Grace called the class to the mat. She addressed some housekeeping matters before introducing the Do Daily task, in which

> we try and focus on a skill that maybe the students find difficult, and basically the activity will be similar every day. So at the moment, we're just trying to get structure of sentences to improve. So just recognise the subject in sentences and being able to create a simple sentence that makes sense. It's going to be a similar thing every day, same focus, so you do it every day. (Grace, post-lesson interview, 00:00:52 - 00:01:24)

Grace began the Do Daily by asking the students to "sit next to your Talk Buddy and I want you to talk with them about what is a sentence. What is a sentence?" (00:28:28 - 00:29:05). After giving the students a minute of talk time, Grace called for responses: "What do you think a sentence is?" (00:30:17 - 00:31:39). Students' responses included reference to grammatical units – *subject*, *noun*, *conjunction* and *verb* – which Grace recorded on the easel and discussed with the class:

- subject and noun are synonymous: "What could we call that subject? There's another word for it. … A name or a noun" (00:30:17 - 00:31:39)
- a conjunction is a "linking word" (00:31:43 - 00:33:16)
- a verb is an "action word" and a sentence must include a verb (00:33:16 - 00:34:04)

The students were then asked "to have a talk with your buddy…and come up with a simple sentence" and, before they started talking, reminded that "a simple sentence…it's about one subject" (00:34:10 - 00:37:11). After giving the students a minute of talk time, Grace called for responses. She wrote students' simple sentences (e.g., *I pat my cat.*) on the easel and invited other students to identify the verbs: "What do you think is the verb, STUDENT?" Grace emphasised that "the verb…you can do that; you can do the action of patting, can't you?" (00:34:10 - 00:37:11). This 5-minute teacher-led exchange about the verbs used by students in their simple sentences included a brief discussion of tense, with Grace reminding the students that the suffix *-ed* designates past tense: "Past, 'cause I've added the e-d. Good" (00:37:20 - 00:40:30).

The Do Daily finished "with a challenge for you now, with your buddy. … I want you to have a go at writing a simple sentence with your buddy that starts with an action verb" (00:41:43 - 00:45:56). Before the students completed this task, Grace asked the class to stand and follow her commands:

- "Place your peel in the bin."
- "Dance on the spot."
- "Slice through the air."
- "Hop on the spot."
- "Sprinkle some fairy dust."
- "Stop!"
- "Melt into the ground."
- "Sit with your partner."

Grace then reiterated the task requirement: "That's what I want you to do with your partner now, is to come up with a…simple sentence using an action verb for your first word" (00:45:56 - 00:53:10). Buddies completed the task and returned to the mat for sharing. Grace invited students to share their sentences; as students read their sentences aloud to the class, she wrote the verbs on the easel. Grace praised students' efforts and concluded the Do Daily by stating that "we will use those skills we practised in our Do Daily to help us with our writing" (00:53:12 - 01:02:15).

Grace introduced the writing task by reminding the students that "yesterday we started writing for a purpose…we were writing to instruct" (00:53:12 - 01:02:15): using the picture book *Possum Magic* by Mem Fox as writing stimulus, the students had written "instructions of how to make a potion" (00:53:12 - 01:02:15). Grace then explained to the students that "now…we're going to have a go at planning a piece of writing that is going to instruct somebody how to make a submarine sandwich" (00:53:12 - 01:02:15). To engage the students, activate their prior knowledge and provoke thinking, Grace used the Interactive Whiteboard (IWB) to show the class a 2-minute stop-motion film by American director Adam Pesapane (PES) (https://www.youtube.com/watch?v=EWEl8-PHhMI), in which the proprietor of a delicatessen creates a submarine sandwich using a range of non-edible

ingredients (e.g., boxing gloves, footballs, shredded currency, View-Master reels, etc.). After talking to their buddies about "what [they] thought of the film", the students watched the film again, this time "think[ing] about the actions that happen in the film when he's making the sandwich" (00:57:58 - 01:02:15). Shortly after restarting the film, Grace clicked ⏸ (pause) and asked the students, "What's the action?" Students offered *slicing* and *grinding*, and Grace, stating that "you might have…seen it at the supermarket, sometimes at the deli", proposed *shaving*: "Shave the ham" (00:59:39 - 01:02:15). Grace then clicked ▶ (play) and the students watched the film, uninterrupted, to the end.

Grace then modelled, with student input, the process of "planning some instructions" (01:02:41 - 01:11:42) using a writing frame (Appendix L). During this process, which took 10 minutes, Grace stressed that:

a) the ingredients needed to be *listed*, using dot points, in the *Materials/Equipment* segment of the frame;
b) the steps for making the sandwich needed to be written sequentially ("Number one [pointing to *1.* on the writing frame]…What's the first thing we're going to do?"); and
c) each step needed to begin with a verb, which Grace connected to the focus of the Do Daily: "OK, so you can see that I've started to do each action in my steps. I want you to have a go at using those action sentences, the start of the sentence is an action word, to write some nice clear steps in your plan for your instructions on how to make a submarine sandwich" (01:07:44 - 01:11:42).

Grace distributed copies of the writing frame. Most of the students moved to their desks to complete their plans independently; the Reading Rabbits group remained with her.

For the next 15 minutes, Grace supported the five students in the Reading Rabbits group to complete their writing frames – "They do require additional support…those five, they do need a bit closer guidance" (Grace, post-lesson interview, 00:07:03 - 00:07:24) –

while the rest of the students worked independently. At 01:19:37, she left the Reading Rabbits, momentarily, to address the class: "Would anyone like to share what they have done so far with the rest of the class in case someone might be a bit stuck?" Two students shared their work and Grace encouraged the class to "[s]ee if you can get onto your sentences [i.e., steps]" (01:19:37 - 01:21:38).

To finish the lesson, Grace called the class to the mat for sharing. Before inviting two students to share their instructions, she asked the class: "Why would we want to put the action at the beginning of the sentence" (01:40:01 - 01:41:35). Elaborating a student's response ("So people know what to do"), she proposed *clarity* and *efficiency*: "So it's a speed reason and…being clear about what to do." Two students shared their work. As they read the steps of their instructions, Grace repeated the verbs they had chosen and praised their efforts. The bell sounded and the students were dismissed for recess.

Analysis of Lesson

The following analysis of Grace's lesson is presented in four sections. In the first section, *Analytical synopsis of lesson*, the preceding descriptive synopsis is complemented by three tables that illuminate the structure of Grace's lesson and, as well, specify the dimensions and categories of the KQ-E that apply to the various elements and moments of her teaching. The second section, *Realisation* describes, in detail, *how* these categories of the KQ-E apply to, or were actualised through, Grace's pedagogy. The third section, *Implications*, describes those aspects of Grace's pedagogy that, having been identified through the application of the KQ-E, might be the focus of improvement. In the fourth and final section, *Summary*, the analysis is reviewed and salient findings pertaining to the research questions are presented.

Analytical Synopsis of Lesson

As per Table 10, Table 11 and Table 12 (below), Grace's lesson consisted of three parts: (1) Spelling (00:00:29 - 00:22:39); (2) Do Daily (00:28:28 - 00:53:10); and (3) Writing (00:53:12 - 01:44:36). Part 1 of the lesson was comprised of a single element, MONITORS CLASS[11]; Part 2 and Part 3 of the lesson were comprised of several elements and, sometimes, sub-elements (e.g., INTRODUCTION, BUILDING THE FIELD; APPLICATION; SHARED WRITING; GUIDED WRITING; SHARING AND DISCUSSION). Each (sub-)element was characterised by a particular type of teaching, or pedagogical context (e.g., check and direct, directive, shared, guided/differentiated). Each of these (sub-)elements was, itself, comprised of at least one, often several, moments of teaching (explanations, instructions, directions, questions, responses, etc.) – the units of analysis. The boundaries of each of the 63 moments of teaching that comprised Grace's pedagogy were defined by the natural flow of the talk that occurred during the lesson. The content of each moment was the subject of analysis, examined for conditions that triggered the applicability of categories of the KQ-E. Table 10, Table 11 and Table 12 show which of the dimensions and categories of the KQ-E apply to each of the 63 moments of teaching. For some, multiple dimensions and/or categories apply (e.g., in Table 11, two 'Question-answer exchange' moments that occur midway through the element/sub-element SIMPLE SENTENCE TASK (ADDRESSES WHOLE CLASS): INTRODUCTION, BUILDING THE FIELD are co-coded *Use of English terminology*, *Making connections between concepts* and *Responding to students' ideas*).

As per Table 10 (below), the KQ-E applies 16 times during Part 1 (Spelling) of the lesson. During this part of the lesson, Grace checked the tasks completed by the students in their spelling booklets. Teacher-student dialogue consisted, mostly, of brief one-to-one

[11] Throughout Chapter 4, lesson elements and sub-elements are distinguished from surrounding body text via SMALL CAPS. Aids reading/understanding of the material.

exchanges (one exchange, for example, lasted just seven seconds) wherein Grace quickly checked and complemented the accuracy or 'correctness' of the student's work, then gave the student permission to move to a free choice activity. Four dimensions and four categories apply to Grace's teaching in this part of the lesson:

- from Foundation, *Identifying pupil errors* (*n* = 3)
- from Transformation, *Teacher demonstration* (*n* = 5)
- from Connection, *Making connections between concepts* (*n* = 3)
- from Contingency, *Responding to students' ideas* (*n* = 3; 2 actual, 1 opportune)

Three moments, each a question-answer exchange, are co-coded *Identifying pupil errors*, *Teacher demonstration* and *Making connections between concepts*. Each of these moments lasted two+ minutes and involved pedagogically substantive dialogue: Grace identified and corrected student misconceptions by explaining, demonstrating, and helping the student to generate accurate examples of, the problematic concept (in each case, *rhyme*). Thus, the exiguousness of applicability of the KQ-E to Part 1 of the lesson is punctuated by these localised instances of richer applicability, wherein the larger number-variety of applicable categories intimates the comparatively complex-dynamic being demonstrated therein.

Table 10

Structure of Grace's lesson (Part 1: Spelling): Element, pedagogical context, moments of teaching and applicable dimensions and categories of the KQ-E

Part of lesson	Element	Pedagogical context	Moment of teaching (unit of analysis)	Applicable dimension(s) and category(ies) from the KQ-E			
				Foun	Tran	Conn	Cont
Part 1: Spelling (00:00:29 - 00:22:39)	Monitors class (00:00:29 - 00:22:39)	Assess and direct Teacher checks each student' s work and gives direction	Question-answer exchange	IPE			
			Models pronunciation		TD		
			Question-answer exchange	None applicable			
			Question-answer exchange	None applicable			
			Question-answer exchange	IPE	TD	MCbC	
			Makes a suggestion				RtSI
			Acknowledges effort	None applicable			
			Question-answer exchange	IPE			RTSI(Opp)
			Question-answer exchange	IPE	TD	MCbC	
			Question-answer exchange	None applicable			
			Question-answer exchange, acknowledges effort	None applicable			
			Question-answer exchange, acknowledges effort				RtSI
			Question-answer exchange	IPE	TD	MCbC	
			Acknowledges effort	None applicable			
			Acknowledges effort	None applicable			
			Directs two students	None applicable			
			Question-answer exchange	None applicable			
			Question-answer exchange	None applicable			
			Question-answer exchange		TD		
			Directs class	None applicable			

In Part 2 (Do Daily) of the lesson, the KQ-E applies to Grace's pedagogy 39 times (see Table 11, below). During this part of the lesson, Grace coordinated a sequence of activities that developed, cumulatively, the field of knowledge that students would apply during Part 3 (Writing) of the lesson. Applicability of the KQ-E is densest during the first element of the Do Daily, SIMPLE SENTENCES TASK: ADDRESSES WHOLE CLASS, where the framework applies 24 times. During this element, three dimensions and eight categories apply to Grace's pedagogy:

- from Foundation, *Theoretical underpinning of pedagogy* (*n* = 3); *Identifying pupil errors* (*n* = 2); *Overt display of subject knowledge* (*n* = 4; 3 actual, 1 opportune); and *Use of English terminology* (*n* = 4)
- from Connection, *Making connections between concepts* (*n* = 3); and *Pedagogical cohesion: Micro-level scaffolding* (*n* = 5; 1 task-level, 4 point-of-need)
- from Contingency, *Responding to students' ideas* (*n* = 3)

As per Table 11, two or more categories apply to seven of the nine moments that comprise the element SIMPLE SENTENCES TASK: ADDRESSES WHOLE CLASS; moreover, for two of these seven moments, five categories apply. The element SIMPLE SENTENCES TASK: ADDRESSES WHOLE CLASS is comprised, mainly, of a series of question-answer exchanges involving pedagogically substantive dialogue. As such, the pattern of applicability that was evident in Part 1 of the lesson seems to be echoed here, with applicability of multiple dimensions/categories of the KQ-E to a moment of teaching intimating the more complex-dynamic nature of the pedagogy being done therein. Grace has, in mind, a pedagogical intention (to develop her students' understanding of a simple sentence), and she must 'think on her feet' or reflect-in-action (Rowland et al., 2009) to reconcile this intention with the input she requests and receives from students – and, in so doing, "maximize the learning

potential of [the] moment" (Sharpe, 2001, p. 33). The complexity of this process appears to be illuminated by concentrated applicability of the KQ-E.

During the second element of the Do Daily, COMMANDS TASK: ADDRESSES WHOLE CLASS, the KQ-E applies 14 times. During this element, three dimensions and eight categories apply to Grace's pedagogy:

- from Foundation, *Theoretical underpinning of pedagogy* (*n* = 1); *Awareness of purpose* (*n* = 1); *Identifying pupil errors* (*n* = 1); *Overt display of subject knowledge* (*n* = 1); and *Use of English terminology* (*n* = 1)
- from Connection, *Anticipation of complexity* (*n* = 1); and *Pedagogical cohesion: Micro-level scaffolding* (*n* = 4; 1 task-level, 3 point-of-need)
- from Contingency, *Responding to students' ideas* (*n* = 3)

Within this element, scope and density of applicability is concentrated on the first of the eight moments of teaching. Like other moments to which multiple dimensions and categories of the KQ-E apply, this moment involved pedagogically substantive discourse. A four-minute-long instructional monologue, it did not, by that very fact, involve the mentally complex process of responding cogently to student input; it was, however, the manifestation of a clear, and important, pedagogical intention: transitioning, cleverly, from the discussion about the grammar of a simple sentence, Grace began to develop students' understanding of the syntax of the imperative mood by asking the students to follow a series of commands and explaining, incidentally, the syntax of those commands. The instructional substantiality of this pedagogically critical four-minute juncture is captured, it seems, by the KQ-E.

Table 11

Structure of Grace's lesson (Part 2: Do Daily): Elements and sub-elements, pedagogical contexts, moments of teaching and applicable dimensions and categories of the KQ-E

Part of lesson	Element, sub-element		Pedagogical context	Moment of teaching (unit of analysis)		Applicable dimension(s) and category(ies) from the KQ-E			
						Foun	Tran	Conn	Cont
Part 2: Do Daily[1] (00:28:28 - 00:53:10)	Simple sentences task[1]: Addresses whole class (00:28:28 – 00:41:41)	Introduction, building the field	Directive[2]		Addresses organisational matters, including schedule for the day	None applicable			
				Discussion and sharing	Directs students	TUoP		PC:Mic(PoN)	
			Shared Teacher coordinates student input	Discussion and sharing	Question-answer exchange	UoET		MCbC	RtSI
				Discussion and sharing	Question-answer exchange	UoET		MCbC	RtSI
				Discussion and sharing	Question-answer exchange	ODoSK, UoET		MCbC, PC:Mic(PoN)	RtSI
		Application	Directive	Discussion and sharing	Explanation, directs students	TUoP, ODoSK(Opp)			
			Shared	Discussion and sharing	Question-answer exchange	IPE, ODoSK			
				Discussion and sharing	Question-answer exchange	TUoP, IPE, ODoSK, UoET		PC:Mic(PoN)	
				Discussion and sharing	Question-answer exchange			PC:Mic(PoN)	
	Commands task[1]: Addresses whole class (00:41:43 – 00:53:10)	Introduction, building the field	Directive		Directs students	ODoSK, UoET		AoC, PC:Mic(PoN)	RtSI
					Directs students	TUoP		PC:Mic(PoN)	
					Directs students	None applicable			
		Application	Shared	Sharing and discussion	Question-answer exchange	AoP			
				Sharing and discussion	Student shares				RtSI
				Sharing and discussion	Student shares, question-answer exchange				RtSI
				Sharing and discussion	Student shares, question-answer exchange	IPE		PC:Mic(PoN)	
				Sharing and discussion	Student shares				RtSI

[1] A task-level micro-level scaffold; discussed in the section **Pedagogical cohesion: Micro-level scaffolding**, below.
[2] Teacher organises/manages students.

In Part 3 (Writing) of the lesson, the KQ-E applies to Grace's pedagogy 52 times (see Table 12, below). During this part of the lesson, Grace supported the students to (a) apply the knowledge of the syntax of commands they had developed in Part 2 of the lesson, and, also, (b) apply knowledge of the generic organisation of procedural texts they had developed in previous lessons. This support consisted, firstly, of a whole-class Shared Writing session; then, for the five students in the Reading Rabbits group, a Guided Writing session. Four dimensions and 15 categories apply to Grace's teaching in Part 3 of the lesson:

- from Foundation, *Theoretical underpinning of pedagogy* (*n* = 5); *Awareness of purpose* (*n* = 6); *Identifying pupil errors* (*n* = 2); *Overt display of subject knowledge* (*n* = 4); and *Choice of text* (*n* = 1)
- from Transformation, *Use of instructional materials* (*n* = 1); *Choice of examples* (n = 1); and *Use of instructional procedures* (*n* = 3)
- from Connection, *Making connections between concepts* (*n* = 2); *Anticipation of complexity* (*n* = 1) *Pedagogical cohesion: Macro-level scaffolding* (*n* = 2); *Pedagogical cohesion: Micro-level scaffolding* (*n* = 17; 2 task-level, 15 point-of-need); *External connectivity: Text-to-world connection* (*n* = 1); and *External connectivity: Text-to-text connection* (*n* = 2)
- from Contingency, *Responding to students' ideas* (*n* = 4)

As with Part 1 and Part 2 of the lesson, a pattern of applicability of the KQ-E is discernible, also, for Part 3 of the lesson, with scope and density of applicability clustered, particularly, on the element SHARED WRITING: ADDRESSES WHOLE CLASS. During this element, four dimensions and 10 categories apply to Grace's teaching. A cluster of dimensions and categories applies, also, to the preceding element, INTRODUCTION, BUILDING THE FIELD: two dimensions and seven categories apply to the four moments of teaching that comprise this element. Across the remaining elements of the lesson, applicability of the KQ-

E is moderately sparse. The pedagogy that occasioned these two clusters of applicability resembled the pedagogy that yielded similar clusters in Part 2 of the lesson. Beginning Part 3 of the lesson, the elements INTRODUCTION, BUILDING THE FIELD and SHARED WRITING: ADDRESSES WHOLE CLASS form, together, a pedagogical fulcrum – namely, the context within which (a) the learning intentions were explicated, and (b) the process of achieving, or demonstrating, that learning was modelled. The pedagogy that comprised the beginning of Part 3 of lesson was complex. Driven by an explicated purpose, and reconciling that purpose *and* the content of the teaching with input requested from, and provided by, the students, Grace coordinated a series of moments that involved activating, verbalising, and building the pertinent field of knowledge, and modelling the correct application of that body of knowledge. The KQ-E appears to capture, and illuminate, the qualitatively sophisticated nature of this 15-minute tract of teaching.

The applicability of the KQ-E to the element GUIDED WRITING is notable, too, for the eight occasions on which the category *Pedagogical cohesion: Micro-level scaffolding (point-of-need)* is relevant. During this element of the lesson, Grace supported the students in the Reading Rabbits group to correctly apply their pre-developed knowledge of the form and language features of procedural text to the process of drafting a set of instructions. As per the details in the column 'Pedagogical context' of Table 12, the nature of the pedagogy demonstrated by Grace during this element was guided/differentiated, and involved the provision of "scaffolds and supports [for] a group of students with similar needs as they develop[ed] writing behaviours and understandings" (Annandale et al., 2004, p. 7). The scaffolding and support that Grace provided took the form of a series of eight moment-by-moment interactions (question-answer exchanges), or point-of-need micro-level scaffolds, that, each initiated by Grace, prompted the students to actively engage in the process of applying their knowledge, and in which they received the feedback needed to help them meet

the demands of the drafting task. The frequent applicability of the category *Pedagogical cohesion: Micro-level scaffolding (point of need)* to the discursive moments that comprise this element correlates with the guided/differentiated nature of Grace's pedagogy.

Table 12

Structure of Grace's lesson (Part 3: Writing): Elements and sub-elements, pedagogical contexts, moments of teaching and applicable dimensions and categories of the KQ-E

Part of lesson	Element, sub-element		Pedagogical context	Moment of teaching (unit of analysis)	Applicable dimension(s) and category(ies) from the KQ-E							
					Foun		Tran		Conn		Cont	
Part 3: Writing (00:53:12 - 01:44:36)	Shared Writing[1]: Addresses whole class (00:53:12 - 01:02:15)	Introduction, building the field	Shared	Explanation, question-answer exchange	AoP				PC:Mac, PC:Mic(PoN), EC:TtTC			
				Students watch film	CoT				PC:Mic(PoN)			
			Directive	Directs students, students re-watch film	TUoP, AoP				PC:Mic(PoN)			
			Shared	Question-answer exchange					PC:Mic(PoN), EC:TtWC			
				Explanation, question-answer exchange	TUoP		UoIM[3]	UoIP	MCbC, EC:TtTC			
		Application		Explanation, question-answer exchange		TUoP, ODoSK			PC:Mac, PC:Mic(PoN)			
				Explanation, question-answer exchange		AoP, ODoSK			PC:Mic(PoN)		RtSI	
	Guided Writing[1] (Reading Rabbits); Independent Writing (all other students) (01:02:41 - 01:37:12)		Guided, differentiated (Reading Rabbits) Teacher supports a group of students to learn/practise a particular skill, or develop a particular understanding Independent (all other students) Students independently apply previously-learnt understandings and processes to the completion of a task	Supports the Reading Rabbits: Directs students	TUoP		UoIM[3]	UoIP (x2)	AoC			
				Supports the Reading Rabbits: Question-answer exchange, directs students						PC:Mic(PoN)	RtSI	
				Supports the Reading Rabbits: Questions a student[2]								
				Supports the Reading Rabbits: Question-answer exchange						PC:Mic(PoN)		
				Supports the Reading Rabbits: Question-answer exchange						PC:Mic(PoN)		
				Supports the Reading Rabbits: Reminds students[2]								
				Supports the Reading Rabbits: Question-answer exchange						PC:Mic(PoN)		
				Addresses class, two students share their work		TUoP				PC:Mic(PoN)		
				Supports the Reading Rabbits: Monitors students[2]								
				Supports the Reading Rabbits: Directs a student		IPE						
				Supports the Reading Rabbits: Question-answer exchange		AoP				PC:Mic(PoN)		
				Supports the Reading Rabbits: Question-answer exchange						PC:Mic(PoN)		
				Supports the Reading Rabbits: Question-answer exchange		ODoSK				PC:Mic(PoN)		
				Addresses class		AoP						
				St R: Question-answer exchange		ODoSK				PC:Mic(PoN)		
	Sharing and discussion: Addresses whole class (01:37:46 - 01:44:36)		Shared	Addresses class, directs students	None applicable							
				Directs a student	IPE							

			Question-answer exchange	AoP	CoE	MCbC	RtSI
			Two students share their work				RtSI

[1] A task-level micro-level scaffold; discussed in the section **Pedagogical cohesion: Micro-level scaffolding**, below.
[2] None applicable.
[3] Writing frame.

Realisation

This section of the analysis is related to Research Question 2, *What do the categories of the KQ, and any new categories, 'look like' in the context of the pedagogy of subject English? What do they capture?* It is comprised, firstly, of a profile of the dimensions and categories of the KQ-E that apply to the pedagogy demonstrated by Grace and, then, of detailed expositions of *how* the applicable categories of the KQ-E relate to, or were actualised through, her pedagogy, beginning with accounts of the applicability/realisation of the categories from Foundation, followed by similar accounts for the categories from the dimensions Transformation, Connection and Contingency. Lists and tables are regularly used to organise and improve the readability of the material. The accounts of the applicability/realisation of the categories include corroborating data from post-lesson interviews and, also, references to scholarly literature.

Analysis of Grace's lesson revealed the following KQ-E profile.

Table 13

Frequency count of KQ-E categories for Grace's Grade 2 English lesson

| Dimensions and categories of the KQ-E | | |

Represented graphically, the category frequencies are more discernible:

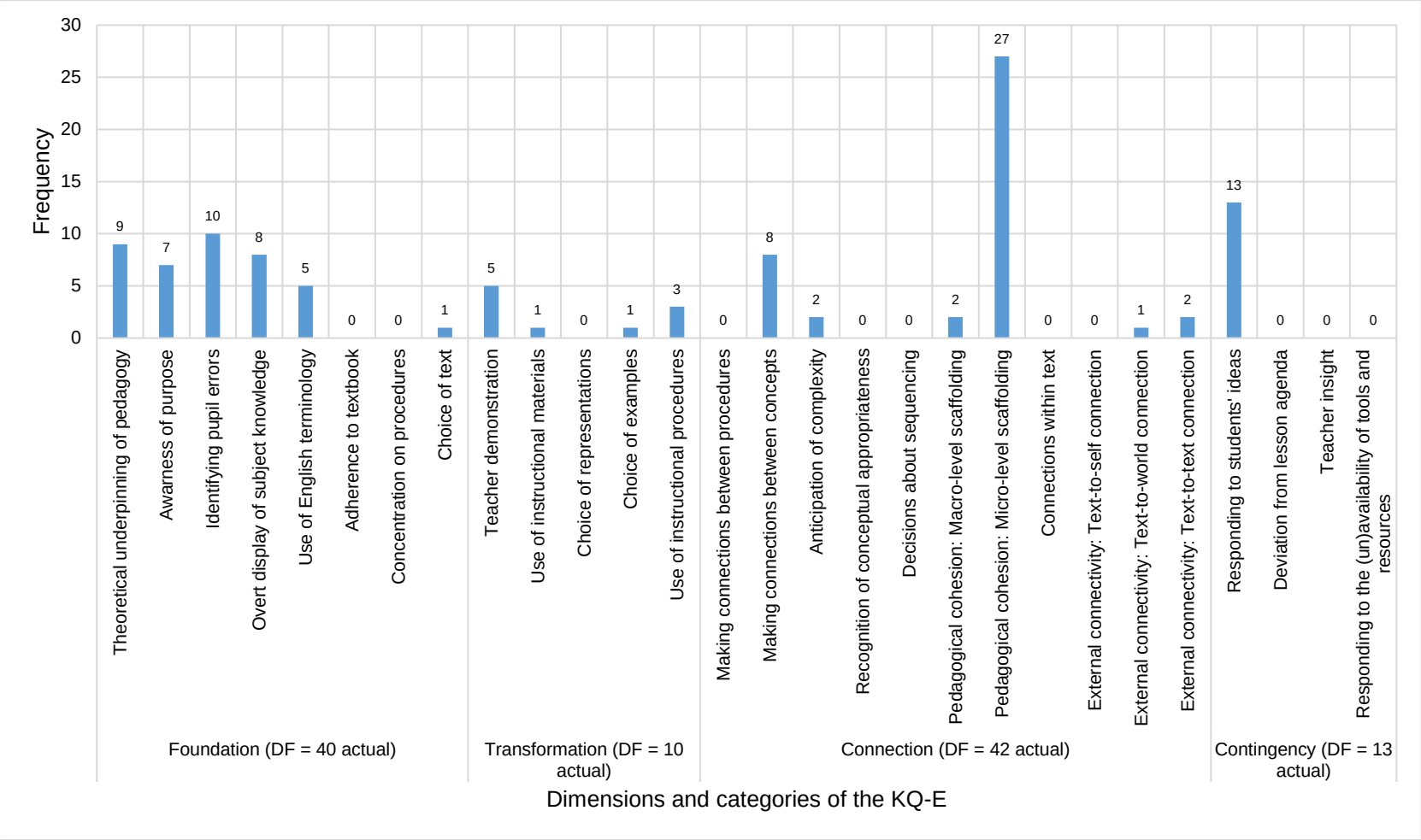


Figure 3. Frequency of KQ-E categories (actual instances only, $n = 105$) for Grace's Grade 2 English lesson.

As per Table 13 and Figure 3, the KQ-E applied to Grace's teaching 107 (105 actual, 2 opportune) times, with categories from the Foundation dimension applying 41 times (40 actual, 1 opportune); categories from Transformation 10 times; categories from Connection 42 times; and categories from Contingency 14 times (13 actual, 1 opportune). *Theoretical underpinning of pedagogy*; *Awareness of purpose*; *Identifying pupil errors*; *Overt display of subject knowledge*; *Making connections between concepts*; *Pedagogical cohesion: Micro-level scaffolding* and *Responding to students' ideas* are the categories that most apply to Grace's teaching, while almost half the categories are not applicable. Within *External connectivity: Text-to-world connection*, appreciative-level comprehension was addressed once; within *External connectivity: Text-to-text connection*, text form knowledge was addressed once. As per Table 13, a small number of moments of Grace's teaching (n = 2) constitute opportune examples of the applicable categories (*Overt display of subject knowledge* and *Responding to students' ideas*; discussed later). How the categories of the KQ-E apply to Grace's teaching is the subject of the next four sections of this chapter.

Foundation: Categories Relevant to Grace's Teaching

Analysis indicates that Foundation has a Dimension Frequency n = 41 (40 actual, 1 opportune). The categories from the dimension that apply to Grace's pedagogy are: *Theoretical underpinning of pedagogy*; *Awareness of purpose*; *Identifying pupil errors; Overt display of subject knowledge*; *Use of English terminology* and *Choice of text*. How each of these six categories applies to Grace's pedagogy is the focus of the following sections of the chapter. Explanations of the applicability of the categories are made with reference to material from the lesson, and content from post-lesson interviews.

Theoretical underpinning of pedagogy. *Theoretical underpinning of pedagogy* has a Category Frequency n = 9. Each of the teaching episodes coded *Theoretical underpinning of pedagogy* occurred during the Do Daily (middle third of the lesson) and writing task (latter

third of the lesson) and relate to the process of activating, building, refining and applying pertinent fields of knowledge. Reflecting a social-constructivist/Vygotskian (1962, 1978) orientation to learning, Grace regularly directed the students to "talk with your buddy" (00:28:28 - 00:30:17) about the content of the lesson – that is, to co-construct knowledge via social interaction (Vygotsky, 1978) – as follows:

- 00:28:28 - 00:30:17: "talk with them about what is a sentence."
- 00:34:10 - 00:34:51: "talk with your buddy and I want you to…come up with a simple sentence, OK?"
- 00:37:20 - 00:40:30: "So…talk with your buddy; see if you can come up with a better action word than *went*."
- 00:45:56 - 00:53:10: "That's what I want you to do with your partner now, is come up with…a simple sentence using an action verb for your first word, OK?"
- 00:57:58 - 01:02:15: "have a little talk next to someone near you about what you thought of the film."
- 01:04:28 - 01:07:44: "Talk to your buddy. What do you think we're going to put in that part?"

In post-lesson interview, Grace explained that providing students with opportunities to discuss lesson content with a talk buddy had become a regular feature of her pedagogy, having been suggested, initially, by more experienced teachers: "I've worked [turn and talk] in[to] my teaching, like the last few years. And it's basically just been older teachers that have…sort of said you could do this, you could do that. … I basically do that with everything I do, turn and talk. And you can probably tell, because they're so used to it" (00:04:22 - 00:05:20). She described, also, the pedagogic value of turn and talk: it "keep[s] them engaged…[and] [t]here is research about…that if you can talk about it, you're more likely to retain or reuse the new information and be able to apply it in new situations" (00:05:09 -

00:06:44). Each of the turn and talk episodes was followed by whole-class sharing, reflecting, also, the social-constructivist/Vygotskian (1962, 1978) orientation to learning that appears to provide a theoretical basis for Grace's pedagogy: Grace would select a student (or students) to share the content of his/her (their) discussion(s) with the class and, as needed, paraphrase, unpack, elaborate, question and clarify their input. During the Do Daily, a predetermined objective informed this process; moreover, the interchanges were *prospective* (Wells, 1999), allowing Grace to initiate a dialogue through which she, as the more knowledgeable participant, guided the co-construction of knowledge. As per the social-constructivist/Vygotskian orientation to learning they represent, each turn-and-talk+whole-class-sharing episode was co-coded *Pedagogical cohesion: Micro-level scaffolding* – discussed in the section **Pedagogical cohesion: Micro-level scaffolding**, below.

Late in the lesson, at 01:19:37 - 01:21:38, Grace asked two students to "share what they have done so far with the rest of the class in case someone else might be a bit stuck." This moment, too, was coded *Theoretical underpinning of pedagogy* because, like the episodes described above, it appears to be underpinned by Vygotskian theory – specifically, his notion of the zone of proximal development (ZPD), "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance, or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). By selecting two students to share their work, Grace provided support to students who "might be a bit stuck"; that is, she provided those students with input that might augment "the[ir] level of potential development…in collaboration with peers" (Vygotsky, 1978, p. 86). Harnessing the pedagogic value of student collaboration, Grace then prompted the students to "swap with a partner, have a read of each other's work, see if it all makes sense."

During the writing task, Grace applied three instructional procedures that gradually transferred responsibility for completing the writing frame to the students: Shared Writing,

followed by Guided Writing (for the Reading Rabbits group) and Independent Writing (for the rest of the class). Discussed in the section **Use of instructional procedures** (below), her application of each of these procedures was co-coded *Theoretical underpinning of pedagogy* because it reflects application of the Gradual Release of Responsibility model (Pearson & Gallagher, 1983; Duke & Pearson, 2002). Grace: "I think as an adult, you realise how much modelling you need to do and the more I model, the better I get out of the students. … Yeah, it's really breaking down" (Grace, post-lesson interview, 00:04:56 - 00:06:28, 28/07/2016).

Analysis indicates that Grace's pedagogy appears to be informed by a social-constructivist/Vygotskian (1962, 1978) orientation to learning, with knowledge co-constructed through multiple opportunities for social interaction within the parameters of her application of the Gradual Release of Responsibility model (Duke & Pearson, 2002; Pearson & Gallagher, 1983). As Grace said of her students during post-lesson interview, "you're best to let them talk" (00:05:27 - 00:05:29).

Awareness of purpose. *Awareness of purpose* has a Category Frequency $n = 7$. The category applies to those episodes of teaching wherein Grace stated, explicitly, the purpose of a task. The first of these overt references to purpose occurred late in the lesson, at 00:50:00 - 00:51:12, when students were preparing to share the writing they had completed in response to the "challenge" set by Grace several minutes prior: "come up with a…simple sentence using an action verb for your first word" (00:45:11 - 00:46:01). Before the sharing started, Grace asked the class, "Who can tell me what the aim of the activity was? What did you have to do?" – to which a student correctly responded, "Write an action at the start of your sentence." During the remaining 40 minutes of the lesson, Grace referred to purpose a further six times, as follows:

- at 00:53:12 - 01:02:15, recalled the purpose of writing tasks completed the day before: "can anyone remember why we were writing yesterday? … Why were we writing yesterday? … We were writing to? … So we were writing to instruct."
- at 00:57:58 - 01:02:15, stressed the purpose of re-viewing the PES film on YouTube and signals the focus of the forthcoming writing task: "this time when we watch it, I want you to think about the actions that happen in the film when he's making the sandwich. Because…our sentences are going to start with actions."
- at 01:07:44 - 01:11:42, after modelling the process of completing the writing frame, re-emphasised the focus of the task: "I want you to have a go at using those action sentences, the start of the sentence is an action word, to write some nice clear steps in your plan for your instructions on who to make a submarine sandwich."
- at 01:23:20 - 01:26:04, when checking the work completed by a student from the Reading Rabbits group, reiterated the focus of the writing task: "Your job is to come up with the action."
- at 01:33:59 - 01:34:36, when addressing the whole class, re-stressed the focus of the writing task: "What were we all wanting to do? Especially in our steps? … Good, have a verb at the start, an action to start your sentences."
- at 01:38:18 - 01:39:24, in the final minutes of the lesson, before some of the students read their plans to the rest of the class, reminded students that "you want the action word to be the beginning of the sentence so as soon as you read it you can do it straight away."

While the precise purpose of the lesson was not communicated, explicitly, by Grace until 00:50:00 - 00:53:10, this pre-determined objective shaped the content and careful 'unfolding' of the lesson from the Do Daily (beginning 00:28:28) onwards. Addressed in detail in the sections **Pedagogical cohesion: Macro-level scaffolding** and **Pedagogical**

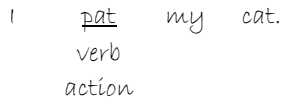
cohesion: Micro-level scaffolding, below, clear purpose informed Grace's planning and delivery of the lesson, evidenced, in particular, by the structure of the Do Daily, which developed the field of knowledge required for the writing task – as Grace stated, "we will use those skills we practised in our Do Daily to help us with our writing" (00:53:12 - 01:02:15) – and, then, the smooth transition from (a) the Do Daily to (b) viewing to (c) modelled writing to (d) guided writing (for the Reading Rabbits) and independent writing (for the rest of the class). As Grace explained during post-lesson interview, the purpose of the Do Daily "at the moment [is] just trying to get structure of sentences to improve…being able to create a simple sentences that makes sense. … And like today, it related pretty well to what we were doing in writing. … [F]rom the Do Daily, we want them to be able to transfer it into their writing independently" (00:03:20 - 00:03:26). The middle and latter stages of the lesson were cohered by the clear sense of purpose that Grace brought the lesson and revealed, eventually, to the students at 00:50:00.

Identifying pupil errors. Identifying pupil errors has a Category Frequency $n = 10$. Five of the episodes coded Identifying Pupil Errors occurred during the first stage of the lesson, when Grace was checking the work that students had completed in their spelling booklets; three occurred during the Do Daily; and two occurred during the final minutes of the lesson, when Grace checked the writing frames completed by some of the students. The errors that Grace addressed during the first part of the lesson related to students' processing of text (graphophonic/visual miscues) (Goodman & Burke, 1972; Goodman, Watson & Burke, 2005; Clay, 2013) and phonological awareness (misconceptions about rhyme, including onset and rime), as follows:

- 00:00:29 - 00:01:30 (graphophonic/visual miscue): a student misread *cloth* as "clothes", to which Grace responded: "Not quite, that one's a little bit different; it hasn't got the 'e-s' on the end: c-l-o-t-h." The student read *cloth* correctly.

- 00:03:38 - 00:05:36 (misconception about rhyme, including onset and rime): a student, whose supplementary spelling task was "Rhyme your words", had written *glam, some*; *plot, sock*. Grace responded by directing the student's attention to the rime of each word; she explained that completing the task successfully involved listing words that feature the same rime: "[W]hen you're rhyming…it just needs to have that ending the same [circles the rime in *clan*]. Same sound. So 'clan', 'pan'; 'plan', 'man'. Same sound at the end. Anything that has that ending sound that's the same."
- 00:07:18 - 00:08:08 (graphophonic/visual miscue): a student misread *gnaw* as *now* and *calm* as *clam* (his spelling words featured silent 'g' and silent 'l'; e.g., *gnash, gnaw*; *calf, salmon*). Grace corrected the student: "'Gnaw', 'gnaw'. … 'Clam' would have a 'c-l', it's got a silent 'l'. So it's…'calm'." (This response was opportunely co-coded *Responding to students' ideas* and is addressed in more detail under *Implications*).
- 00:08:18 – 00:10:31 (misconception about rhyme, including onset and rime): a student misunderstood the requirements of the "Rhyme your words" task: "How did you go with your rhyming? … 'Slap'. So you need to have the same sound at the end, remember?" Grace directed the student's attention to the rime (*-ap*) and prompted the application of different onsets: "If you put 'sn', what does it make?"
- 00:13:55 - 00:15:49 (misconception about rhyme, including onset and rime): a student, whose supplementary spelling task was "Rhyme your words", had written *puzzle, drizzle* (her spelling list was comprised of *-ettle* and *-izzle* words). Grace responded by directing the student's attention to the rime of each word, particularly the first letter of each rime: "Oh it's tricky with that one because it does have the same ending sound but it needs to almost be the whole rhyme. … It won't work if it's got the 'i' in there."

The errors that Grace addressed during the Do Daily related to student misconceptions regarding parts of speech and tense. At 00:35:43 - 00:37:15, when talk buddies were being called upon to share the simple sentences they had developed (one being *I pat my cat.*, which Grace wrote on the easel), Grace asked a student, "What do you think is the verb, STUDENT?" The student identified *cat* as the verb, to which Grace replied: "Hmm. Do you reckon you could get up and be a cat? Could you do that action? You probably could, but is that the action in the sentence?" In reply, the student correctly identified *pat* as the verb, which Grace underlined and labelled *verb* and *action*:



Another student shared *I went to school.*, which Grace wrote on the easel. Grace then asked the students to "think of a better action word than 'went'. What could we swap it for?" A student suggested *ran*. On the easel, Grace replaced *went* with *ran*. Next, *ran* was replaced with *walked*, with Grace asking a student, "[I]s that the present tense or the?" When the student replied "Present", Grace rephrased her question: "Is that now or is it in the?" In reply, the student correctly answered "Past", with Grace then confirming the inflectional suffix *-ed* indicates past tense: "Past, 'cause I've added the 'e-d'. Good" (00:37:20 - 00:40:30).

At 00:52:01 - 00:52:58, after the students had completed the "challenge" of "hav[ing] a go at writing a simple sentence with your buddy that starts with an action verb" (00:41:43 - 00:45:10) and pairs were sharing their sentence with the rest of the class, Grace corrected a student who started a command with *I* (*I make a cake.*): "'I make a cake.' So the first word is 'I'. Is that an action word?" [STUDENT: "No."] "What is your action word in…that sentence?" [STUDENT: "Make."] "'Make.' So you could get rid of the 'I' and just say, 'Make a cake'." The original sentence was, in fact, a statement (first person, simple present

tense). In correcting the student, Grace did not address this point (doing so might have distracted from the intention of the task and, perhaps, confused students); rather, she simply reminded the student that a command begins with a verb. (The imperative form is understood as being in the second person; the subject pronoun *you* is often omitted, especially in procedural texts.)

The other two cases of *Identifying pupil errors* occurred during the final 20 minutes of the lesson. At 01:22:20 - 01:23:19, Grace promptly interceded when she noticed that one of the students in the Reading Rabbits group had not completed the *Materials/Equipment* section of the writing frame as per the modelled requirements: "Now listen…we need to make a list, OK? So put a point. 'Bun' is the first thing. … We need to put things underneath one another." Then, at 01:38:18 - 01:39:24, as the class was moving to the mat for sharing, she directed a student to remove the superfluous adverb *then* from the beginning of each step, "[b]ecause you want that action word to be the beginning of the sentence so as soon as you read it you can do it straight away." Grace appeared keen to ensure that students completed the writing frame as modelled; that is, to ensure they applied the structure and lexis characteristic of a written procedural text.

Overt display of subject knowledge. *Overt display of subject knowledge* has a Category Frequency $n = 9$ (8 actual, 1 opportune) and applies to moments of teaching that occurred during the Do Daily and writing task, when Grace communicated her knowledge of traditional grammar and generic form. Below, the eight actual instances of *Overt display of subject knowledge* are addressed first, followed by the opportune instance.

During the Do Daily, when students were developing, sharing and discussing simple sentences, Grace demonstrated her knowledge of the syntax of this category of sentence; moreover, she commented, during post-lesson interview, that she "went early on to a Sheena Cameron PL…[where she] got a few things…that [she] brought back pretty much straight away" (00:02:55 - 00:03:02), including knowledge of "simple sentences…verbs and nouns"

(00:03:07 - 00:03:12). During the Do Daily, Grace demonstrated this subject-matter knowledge (SMK), as follows:

- at 00:33:16 - 00:34:04, demonstrated her knowledge of the syntax of a sentence by acknowledging, via a question to the class and the elaboration that ensued, that a sentence must contain at least one verb: "Does it have to have a verb in a sentence?"
- at 00:34:10 - 00:34:51, just before talk buddies developed their simple sentences, correctly stated that "a simple sentence…could be long." As Derewianka (2011) notes, "[s]imple sentences are not necessarily short ones…[s]imple sentences are simple in terms of their structure (i.e., a single clause), not necessarily in terms of their content" (p. 88).
- at 00:35:43 - 00:37:15 and 00:37:20 - 00:40:30, correctly parsed the simple sentences that had been volunteered by talk buddies.
- at 00:41:43 - 00:45:56, as part of the transition to discussion of the structure of the imperative mood, acknowledged that "I can have a one-word sentence, 'Stop!'."

During the latter part of the lesson, when the focus had shifted to "hav[ing] a go at planning some instructions on how to…build a submarine sandwich" (01:02:41 - 01:11:42), Grace demonstrated, overtly, her knowledge of "the structural and textual features" (Campbell & Green, 2006, 145) of written procedural text. As Lewis and Wray (1998) observe, "[i]n order to help children, teachers themselves need to be aware of text structures" (p. 2). When modelling the process of completing the writing frame, Grace twice demonstrated this SMK. At 01:04:28 - 01:07:44, during a teacher-led question/answer exchange with the class, she drew students' attention to the structural features of written procedural text; specifically, that information recorded in the *What do you need? Materials/Equipment* section of the frame should be presented as a list: "[I]f I want to start thinking like a set of instructions, what could I do? … If I'm going to write lots of different

things in here, how might I write it…? What might I use? [STUDENT: "A list."] Yeah, I might use a list, mightn't I?" Grace then proceed to write a dot-pointed list of ingredients in the *What do you need? Materials/Equipment* section of the frame. At 01:07:44 - 01:11:42, Grace demonstrated her knowledge of the linguistic features of the genre; specifically, the grammatical structure of commands. Thinking aloud, she identified a suitable bare infinitive form of the verb for the beginning of each step and, typical of the imperative mood, omitted the subject: "…he was shaving the ham. So I'm going to use the action [writes *Shave the ham and* onto the writing frame] shave the ham and when he put it on…he sort of [makes a folding motion] folded it, didn't he? He…fold, fold, and fold the ham. Shave the ham and fold [adds *fold onto the bun* to the writing frame] onto, onto the bun."

In the final minutes of the lesson, Grace again demonstrated her knowledge of the linguistic features of written procedural text; namely, the verb at the beginning of each step must be very concrete:

- at 01:27:05 - 01:33:03: "And 'get', well 'get' is an action but is it a very good action? … No, not really, 'cause in your head do you have a very good picture of what 'get' looks like? … So would 'place' be a better word? 'Cause then I get a good idea of how you're doing it. So 'place'. … So maybe just 'Place the bread on the table'."
- at 01:35:45 - 01:37:12: a student overuses the verb *sprinkle*; helps the student identify suitable alternatives for each of the steps: *roll*, *line*, *lay* and *place*.

An opportune example of *Overt display of subject knowledge* (addressed in more detail under *Implications*, later) occurred during the episode 00:34:10 - 00:34:51, just before talk buddies were instructed to "come up with a…simple sentence." Grace stated, problematically, that, "a simple sentence…is about one subject, OK." A simple sentence may have multiple subjects (e.g., *<u>Matilda</u>, <u>Hannah</u> and <u>Eve</u> rode their bikes to the shop.*);

these multiple subjects are, however, coordinated to form a single, longer noun phrase called a compound subject (*Matilda, Hannah and Eve*…).

Use of English terminology. *Use of English terminology* has a Category Frequency *n* = 5. During the Do Daily, Grace routinely used a collection of technical terms related to grammar: *conjunction*, *noun*, *past tense*, *present tense*, *subject* and *verb*. Grace and the students were developing a common understanding of the meaning of these terms, as per the sharing and discussion that followed her question to the class, "What is a sentence?" (00:28:28 - 00:41:41). For example, the students recognised that:

- the subject of a sentence may be realised as a noun, and that *noun* can be equated with *name*: "What could we call that subject?" STUDENT: "A noun or a name."
- a conjunction is used "[t]o link a sentence up to another sentence" (STUDENT, 00:31:43 - 00:33:16).
- a verb is "[a]n action word" (STUDENT, 00:33:16 - 00:34:04)

In post-lesson interview, Grace commented that some of the students had learnt some of these terms in Grade 1 – "some of them had a few explicit past vocab around their sentences already" (00:02:43 - 00:02:52) – but that most of the teaching/learning of these terms had followed the "Sheena Cameron PL…[where she] got a few things that [she] brought back pretty much straight away. So the conjunction stuff…and simple sentences…and verbs and nouns" (00:02:55 - 00:03:12).

Choice of text. *Choice of text* has a Category Frequency *n* = 1 and applies to Grace's selection and use of the 2-minute stop-motion film *Submarine Sandwich* by American filmmaker Adam Pesapane, known by the pseudonym PES (https://www.youtube.com/watch?v=EWEl8-PHhMI). When asked during post-lesson interview why she had chosen this text, she explained that she used it "for ideas and I guess for the … I'm struggling for the word, for your context of your writing as well. … [A]s a

stimulus…to actually get some thoughts on what you can write about, as well as not just the nitty-gritty of the language and that sort of thing" (00:26:17 - 00:26:53, 16/11/2016).

Foundation: Summary

Six categories from Foundation applied to Grace's teaching: *Theoretical underpinning of pedagogy*; *Awareness of purpose*; *Identifying pupil errors; Overt display of subject knowledge*; *Use of English terminology*; and *Choice of text*. Table 14 reiterates, concisely, how those categories applied thereto.

Table 14

Summary of how six categories from Foundation applied to Grace's pedagogy

Category	Frequency	Application to Grace's pedagogy
Theoretical underpinning of pedagogy	9	Grace's pedagogy reflected Vygotskian (1962, 1978) underpinnings: opportunities for students to 'turn and talk' within the context of careful, well-informed scaffolding indicates a view of "learning [as]…a communicative process whereby knowledge is shared and understandings are [co-]constructed" (Hammond & Gibbons, 2001, p. 8).
Awareness of purpose	7	A pre-determined objective shaped the content and careful 'unfolding' of the lesson from the Do Daily (beginning 00:28:28) onwards. Grace revealed this objective to students at 00:50:00 - 00:53:10.
Identifying pupil errors	10	Grace addressed pupil errors related to: processing of text (graphophonic/visual miscues); phonological awareness (rhyme, including onset and rime); aspects of grammar (parts of speech and tense); the structure of the imperative mood (a command begins with a specific action verb).
Overt display of subject knowledge	9 (8 actual, 1 opportune)	8 actual: Grace demonstrated her knowledge of the syntax of a simple sentence and the organisational and language features of procedural text. 1 opportune: Grace's knowledge of the grammatical concept *subject* appears limited (discussed below under *Implications*).
Use of English terminology	5	Grace and the students were developing a shared metalanguage that was comprised of terminology from the field of traditional grammar.
Choice of text	1	Grace selected *Submarine Sandwich* "as a stimulus" for writing, a text that would prompt "some thoughts" regarding the content of students' procedural texts.

Hereunder, the categories from Transformation that apply to Grace's pedagogy are addressed.

Transformation: Categories Relevant to Grace's Teaching

Analysis indicates that Transformation has a Dimension Frequency *n* = 10. The categories from the dimension that apply to Grace's pedagogy are *Teacher demonstration*, *Use of instructional materials*, *Choice of examples* and *Use of instructional procedures*. How each of these categories applies to Grace's pedagogy is the focus of the following sections of the chapter. As before, explanations of applicability are made with reference to material from the lesson, and content from post-lesson interviews.

Teacher demonstration. *Teacher demonstration* has a Category Frequency *n* = 5. The pedagogy to which this category pertains occurred during the beginning of the lesson, when Grace was checking the work that students had completed in their spelling booklets. At 00:01:30 - 00:02:20, a student mispronounced 'gnaw' (saying 'nar') and she demonstrated the correct pronunciation: "*Gnaw, gnaw*. So like a squirrel or a beaver would gnaw on a tree trunk." In the episode 00:03:38 - 00:05:36 (co-coded *Identifying pupil errors,* discussed above), Grace demonstrated the process of developing a list of rhyming words by adding a range of different onsets to a common rime: "So when you're rhyming…it just needs to have that ending the same. Same sound. So 'clan', 'pan'; 'plan', 'man'. Same sound at the end. … 'Slip', 'tip'. Anything that has that ending sound that's the same." She did likewise during the episodes 00:08:18 - 00:10:31 and 00:13:55 - 00:15:49 (both also co-coded *Identifying pupil errors,* discussed above): "So you want to have the same sound at the end, remember? So 'slap'. Change the beginning sound. So let's put one letter on the beginning here but keep the end sound. So instead of 'sl', what can you put at the start?" (00:08:18 - 00:10:31).

At 00:20:36 - 00:22:39, Grace demonstrated the process of blending phonemes to form, and read, words: "So when you're, when you're reading it to yourself, you can, just to make it a bit quicker we can put it together: sl--ip, sl-ip. Slip." Hill (2006) stated that "[b]lending phonemes to identify words is necessary for reading proficiency" (p. 137). Grace demonstrated a behaviour needed to competently process, and comprehend, text.

Use of instructional materials. *Use of instructional materials* has a Category Frequency $n = 1$ and applies to the writing frame, the one material artefact that Grace used to mediate students' learning. According to genre theory, texts that share a common purpose tend, also, to share a common structure and lexis (Derewianka, 1990; Wing Jan, 2009). These patterns of organisation and language must be learnt, and writing frames "offer a very useful way of introducing children to different written genres and then supporting them in the use of appropriate text structures" (Lewis & Wray, 1998, p. 3). The writing frame that Grace used was from a commercial resource – namely, Cameron and Dempsey (2013, p. 228; Appendix L). For the Shared Writing session (01:02:41 - 01:11:42), she had an enlarged (A3) copy of the writing frame clipped to the easel, which all of the students could see from the floor, and introduced the frame by comparing and contrasting it to other "structure[s]" the students had previously used when planning for writing of different text-types: "[W]e're going to have a go at planning using…a structure that's a little bit different to the one we've been using for recounts and narratives, OK? … It's not quite a hamburger…but it does have a similar build to it. So you've still got a structure up the top and you've still got layers going down the middle" (01:02:41 - 01:04:28). Grace then modelled the process of completing the writing frame, thinking aloud and periodically soliciting input from students as she went. At 01:07:44, Grace concluded the modelling episode – "OK, so you can see that I've started to do each action in my steps" – and distributed a copy of the writing frame to each student to complete, saying, "I want you to have a go at using those action sentences, the start of the

sentence is an action word, to write some nice clear steps in your plan for your instructions on how to make a submarine sandwich."

Graves (1983) divides the writing process into five stages: pre-writing, drafting, revising, editing, publishing. Pre-writing, or planning, involves

> writers considering their topic for writing, the purpose and audience for their text and making some choices about the form that writing will take. *It also involves anything that helps writers figure out what they will say and how they will say it* [emphasis added]. (Annandale et al., 2005, p. 210)

The writing frame, then, was 'something' – a "skeleton outline" (Lewis & Wray, 1998, p. 3) – that helped the students 'figure out' the content of their texts and how that content would be organised and communicated according to the conventions of the genre. Moreover, Grace's pedagogy featured practices recommended by Annandale et al. (2005): when "supporting writers to plan it is important to expose students to a range of planning techniques…[and] when focusing on the different facets of planning, include a combination of demonstrations, think-alouds and opportunities for students to apply the techniques in real planning situations" (p. 210).

Choice of examples. *Choice of examples* has a Category Frequency $n = 1$ and applies to a moment of pedagogy that occurred in the closing minutes of the lesson. At 01:40:01 - 01:41:35, Grace connected the language features of procedural text – specifically, imperative mood – to social purpose (see the section **Making connections between concepts**, below) and, to illustrate this connection, related a scenario she believed would be meaningful to the students:

> If someone is trying to play a game – *you will know this* [emphasis added] – if you're trying to play a game and someone gives you the instructions, *do you want to read them* [emphasis added]? I don't, 'cause I just want to play the

> game. … I don't really want to read the instructions, do I? … But if the instruction is short and tells you quickly, tells you the action you need to do nice and simply, then you will probably read the instructions, won't you?

Use of instructional procedures. *Use of instructional procedures* has a Category Frequency $n = 3$. The category applies to Grace's coordination of three "meaningful contexts for focusing on [a] selected [part] of the writing process [i.e., pre-writing, planning]", which "involve[d] varying degrees of responsibility for both the teacher and the student[s]" (Annandale et al. 2005, p. 5): Shared Writing, Guided Writing and Independent Writing. The details of each of these procedures, as realised during the lesson, are detailed below:

- Shared Writing (01:02:41 - 01:11:42). Grace used the shared experience of watching the PES film *Submarine Sandwich* as the context for jointly completing the writing frame. During this process, she "demonstrate[d] what capable [writers] do implicitly" (Tompkins, Campbell & Green, 2012, p. 424): using think-alouds, Grace openly communicated the cognitive work implicit in marshalling the content of the text (based on suggestions from the students) and, in particular, of controlling the specific lexical features of the procedural genre by selecting precise action verbs. Grace completed the writing frame section by section, demonstrating the process of converting oral language to print and providing a model plan that clarified the expectations of the task.
- Guided Writing (01:13:05 - 01:37:12). Most of the students completed their writing frames independently (i.e., moved to independent writing following the Shared Writing session); however, a small group of students, the Reading Rabbits, was directly supported by Grace in a Guided Writing session. Acknowledging the additional complexity the task would present to these students – "They do require additional support. … But those five, they do need a bit closer guidance" (Grace, post-

lesson interview, 00:07:03 - 00:07:24) – Grace coordinated a specific instructional procedure that involved "guiding and supporting [the] students through the process of writing, providing explicit instruction and feedback" (Annandale et al., 2005, p. 17). Grace moderated the cognitive demands of completing the writing frame, supporting the students to write texts "more complex than text they could write on their own" (p. 17).

- Independent Writing (01:13:05 - 01:37:12). Most of the students were able to complete their writing frames independently; or, at least, to "sit with the table, and they can grasp enough to be able not to copy, but use the support of other students to keep going" (Grace, post-lesson interview, 00:07:10 - 00:07:17). The bulk of the class was able to "tak[e] charge of their own writing…apply[ing] the understandings, processes and strategies learnt through the supported teaching procedures [i.e., the Shared Writing session], then take responsibility for working through any challenges they encounter in the process of writing" (Annandale et al., 2005, p. 20): as Grace said to the class at 01:19:37 - 01:21:38, "swap with a partner, have a read of each other's work, see if it all makes sense. … It's OK to cross out and to fix up things." And, at 01:33:59 - 01:34:36: "If you do get finished, give it to someone who's already finished and get them to read and check that criteria. What were we all wanting to do? Especially in our steps? … Good, have a verb at the start, an action to start your sentences."

By coordinating the application of three instructional procedures – Shared Writing, Guided Writing and Independent Writing – Grace transitioned from assuming "all the responsibility for performing a task…to…situation[s] in which the students assumed…responsibility" (Duke & Pearson, 2002, p. 211). She applied the Gradual Release of Responsibility model.

Transformation: Summary

Three categories from Transformation applied to Grace's teaching: *Teacher demonstration*; *Use of instructional resources*; *Choice of examples*; and *Use of instructional procedures*. Table 15 reiterates, concisely, how those categories applied thereto.

Table 15

Summary of how four categories from Transformation applied to Grace's pedagogy

Category	Frequency	Application to Grace's pedagogy
Teacher demonstration	5	During the first phase of the lesson, when she was checking the work that students had completed in their spelling booklets, Grace demonstrated the process of developing a list of rhyming words by adding different onsets to a common rime. Also, she modelled the correct pronunciation of words and important word-processing behaviours.
Use of instructional materials	1	Grace used a commercially produced writing frame to support students' planning of procedural texts.
Choice of examples	1	Grace related a meaningful scenario (example) to illustrate a conceptual link.
Use of instructional procedures	3	Within the context of the GRR model (Pearson & Gallagher, 1983), Grace applied three instructional procedures to mediate students' learning: Shared Writing, Guided Writing and Independent Writing.

Hereunder, the categories from Connection that apply to Grace's pedagogy are addressed.

Connection: Categories Relevant to Grace's Teaching

Analysis indicates that Connection has a Dimension Frequency $n = 42$, the highest of the four dimension frequencies. The categories from the dimension that apply to Grace's pedagogy are: *Making connections between concepts*; *Anticipation of complexity*; *Pedagogical cohesion: Macro-level scaffolding*; *Pedagogical cohesion: Micro-level scaffolding*; *External connectivity: Text-to-world connection*; and *External connectivity: Text-to-text connection*. How each of these categories applies to Grace's pedagogy is the focus of

the following sections of the chapter. Explanations of applicability are made with reference to material from the lesson, and content from post-lesson interviews.

Making connections between concepts. *Making connections between concepts* has a Category Frequency $n = 8$ and applies to moments of Grace's pedagogy wherein connections between different concepts were illuminated, including connections between: (a) orthography and phonology; (b) different grammatical units; (c) grammatical form and meaning; and (d) the features of a genre – particularly its characteristic linguistic features – and its intended social purpose.

During the first phase of the lesson, Grace illuminated, three times, the connection between orthography and phonology, explaining to students that "[a]nything that has that ending sound that's the same. … So that's the sound [circles the 'ot' in *pot*] you need to rhyme with" (00:03:38 - 00:05:36). And:

- at 00:08:18 - 00:10:31: "[t]hey all rhyme 'cause they've all got the same, what's the same about them? [STUDENT: "'Cause they've all got the same ending."] … All the same ending" (00:08:18 - 00:10:31)
- at 00:13:55 - 00:15:49: "So if you keep that ending, that's where it helps you make a rhyme. … And you can just add a different beginning to the ending."

During the Do Daily, when the class was discussing the question "What is a sentence?" (00:28:28 - 00:41:41), Grace illuminated connections between (a) grammatical units that were named by students, and (b) grammatical form and meaning – as follows:

- connected the concepts of *subject* and *noun*: "What could we call that subject? There's another word for it." STUDENT: "A noun or a name." (The definitive nature of this connection – "There's another word for it" – is, however, problematic, as discussed under *Implications*).

- connected the grammatical form *conjunction* to meaning: "Conjunction. … Do you know what it means, STUDENT?" STUDENT: "To link a sentence up to another sentence." GRACE: "Ah, like a linking word."
- connected the grammatical form *verb* with a meaning appropriate for Grade 2 students: "What is a verb?" STUDENT: "An action word." GRACE: "An action word."

During the latter part of the lesson, Grace illuminated the connection between the structure and characteristic linguistic features of procedural text, and its social purpose:

- at 01:02:41 - 01:11:42, indicated that different types of texts have different structures – "we're going to have a go at planning using…a structure that's…different to the one we've been using for recounts and narratives" – and highlighted the organisational components of a procedural text: "The first one says the goal. … Then underneath it says 'materials slash equipment' [i.e., *Materials/Equipment*]. … Now we're getting onto the…instructions, the steps."
- at 01:40:01 - 01:41:35, in the closing minutes of the lesson, connected the language features of a procedural text – specifically, imperative mood – to social purpose: "[I]f the instruction is short and tells you quickly, tells you the action you need to do nice and simply, then you will probably read the instructions, won't you? … So the reason we put the action word first is so as soon as people read your instructions, they're going to know quickly how to…make the sandwich. So it's a speed reason and…being clear about what to do."

The lesson was comprised of three parts, each of which addressed a particular domain of subject knowledge: (a) orthography/phonology; (b) parts of speech and the syntax of the imperative mood; and (c) the organisation and language features of procedural text. Within each of these domains of subject knowledge, Grace drew conceptual links that may have supported students' development of understanding.

Anticipation of complexity. *Anticipation of complexity* has a Category Frequency *n* = 2. The category applies to those moments of teaching wherein Grace recognised that teacher intercession was needed to ensure that students could accomplish, successfully, the cognitively and linguistically demanding task that she would shortly introduce.

At 00:41:43 - 00:45:56, Grace acknowledged that she "[had] a *challenge* [emphasis added] for you now, with your buddy. In a moment, you're going to…have a go at writing a simple sentence with your buddy that starts an action verb." Recognising that some of the students may struggle to compose a command, Grace asked the class to "stand up and we're going to do some actions." The students were directed to: *place*, *dance*, *slice*, *hop*, *stop*, *cut*, *melt* and *sit*. Grace then reiterated the task requirements: "So I started that sentence with the word 'sit'. It was an action. That's what I want you to do with your partner now, is come up with a sentence using your action verb for your first word."

The Guided Writing session described above (see *Use of instructional procedures*) was co-coded *Anticipation of complexity*. Grace acknowledged the challenge the planning task would present to the Reading Rabbits and, therefore, interceded: "They do require additional support. … But those five, they do need a bit closer guidance" (Grace, post-lesson interview, 00:07:03 - 00:07:24).

Pedagogical cohesion: Macro-level scaffolding. The category *Pedagogical cohesion: Macro-level scaffolding* has a Category Frequency *n* = 2. The code applies to moments of teaching wherein Grace openly connected the content/learning of the current lesson to content/learning from prior lessons. Both of these moments occurred during the latter phase of the lesson, shortly before students completed their writing frames – as follows:

- at 00:53:12 - 01:02:15, Grace recalled the details of the writing task that students had completed the day before – including context, text-type and purpose – and connected that content/learning to the current focus: "So yesterday we started to write for a

purpose and that purpose…why were we writing yesterday? We did…a little bit of writing in a response to *Possum Magic*. … We were writing to make a potion. What were we writing, though, why were we writing it? … Yeah, we were writing instructions of how to make a potion. … So we were writing to instruct. … OK, now we're going to watch a film and then we're going to have a go at planning a piece of writing that is going to instruct somebody how to make a submarine sandwich."

- at 01:04:28 - 01:07:44, when modelling the process of completing the writing frame, Grace reminded the students of relevant prior learning: "We've done lots of these this year. If I'm going to put lots of different things in here, how might I write it on a piece of paper? What might I use? … Yeah, I might…put them in a list, mightn't I?"

Grace delivered pedagogically cohesive lessons that deliberately scaffolded the cumulative development of student knowledge, understanding and capacity.

Pedagogical cohesion: Micro-level scaffolding. The category *Pedagogical cohesion: Micro-level scaffolding* has a Category Frequency *n* = 27 (5 task-level, 22 point-of-need), the highest category frequency, and applies to moments of teaching that occurred during Part 2 and Part 3 of the lesson, the Do Daily and Writing. A large number of teaching moments are coded *Pedagogical cohesion: Micro-level scaffolding*, making prose a protracted method of presenting the details of these moments. Tables (Table 16 and Table 17) provide a more effective method of presenting the data.

Viewed completely, from 00:28:28 - 00:44:44, the Do Daily can, in fact, be considered a task-level micro-level scaffold that prepared students for the demands of the writing task; however, achieving the goal of the Do Daily – namely, of developing students' language resources for the purpose of realising imperative mood – was, itself, a process that was carefully scaffolded by Grace. Hammond and Gibbons (2001) have noted that "scaffolding needs to be thought of in relation to the…selection and sequencing of tasks and

to the specific classroom interactions that are part of those tasks" (p. 6). The Do Daily preceded the writing task and prepared the students to meet the language demands of that task; moreover, the content/learning of the Do Daily was, itself, carefully scaffolded via the 10+ 'specific classroom interactions', or point-of-need micro-level scaffolds – including discussion, question/answer exchanges, modelling, explanation – that are listed in Table 16. The two elements that comprise the Do Daily, SIMPLE SENTENCES TASK: ADDRESSES WHOLE CLASS and COMMANDS TASK: ADDRESSES WHOLE CLASS can, in fact, be considered sub-task-level micro-level scaffolds: the former develops the field of knowledge required for the latter; the latter expands, or reshapes, the field of knowledge developed in the former.

Table 16

Details of sub-task-level and point-of-need micro-level scaffolding that occurred during the Do Daily (a task-level micro-level scaffold)

Element of Do Daily (sub-task-level micro-level scaffold)	Time in lesson and description of moment of point-of-need micro-level scaffolding	Intended purpose/effect of moment
Simple sentences task: Addresses whole class	00:28:28 - 00:30:17 Turn and talk: "What is a sentence?"	Access, articulate and build the general field of knowledge (sentence).
	00:33:16 - 00:34:04 Isolates *verb*, asks "What is a verb?" and defines *verb* as "An action word."	Highlights specific content (verb) relevant to upcoming writing task.
	00:37:20 - 00:40:30 Discussion, question-answer exchange: emphasises action verbs that "give you a better picture in your mind"; "Can you think of a better word than *went*?" – students turn and talk.	Further specification of content (nature of verb) relevant to upcoming writing task; opportunity for students to actively engage with/apply that content.
	00:40:49 - 00:41:41 As above: discussion, question-answer exchange that emphasises action verbs that "…give you a better picture in your mind…"; turn and talk.	Further specification of content (nature of verb) relevant to upcoming writing task; opportunity for students to actively engage with/apply that content.
Commands task: Addresses whole class	00:41:43 - 00:45:56 Commands students to *place*, *dance*, *slice*, *hop*, *stop*, *cut*, *melt* and *sit*.	Providing example commands that feature verbs that "give you a…picture in your mind" models application of language features of procedural text.
	00:45:56 - 00:53:10 In pairs, students "come up with [i.e., write] a…simple sentence using an action verb for your first word"; pairs share their sentences with the whole class.	Co-development and discussion of commands: students practise, and received feedback on, application of the language features of procedural text.
	00:53:12 - 01:02:15 Explains that "we will use those skills we practised in our Do Daily to help us with our writing."	Explicates for students the connection between the focus of the Do Daily and the writing task[1].

[1] Sharpe (2001) emphasised the "importance of helping students to make explicit the connections, both backwards to previous experiences and forwards" (p. 36)

The Do Daily familiarised the students with, and allowed them to practise using, the focus language structure (imperative mood) in much smaller segments than ultimately needed. The spoken, context-reduced process of the Do Daily removed complexities required

of the eventual writing task (completing the writing frame), allowing the students opportunity to participate successfully in tasks that built toward that end.

Part 3 of the lesson, Writing (00:53:12 - 01:37:12), was carefully scaffolded by Grace (see Table 17). The scaffolding was multilayered, comprising a sequence of three task-level micro-level scaffolds – the instructional procedures Shared Writing, Guided Writing and Independent Writing – and, also, point-of-need micro-level scaffolding of the content of the Shared Writing and Guided Writing sessions.

Viewed completely, the Shared Writing session (01:02:41 - 01:11:42) can, like the Do Daily, be considered a task-level micro-level scaffold that prepared the students for the task of completing their writing frames. It achieved this by:

- introducing the focus genre (procedural text);
- establishing a context for writing;
- modelling application of the language structures introduced and practised during the Do Daily; and
- modelling the process of refining language choices.

Moreover, the Shared Writing session was, itself, comprised of many moments of point-of-need micro-level scaffolding: while modelling the process of completing the writing frame, Grace initiated "specific classroom interactions" (Hammond & Gibbons, 2001, p. 6; see Table 17) that engaged the students with the cognitive and language demands of the task. As Hammond (2001) stated, "in early phases [of scaffolding], the teacher takes a more direct role in assisting students to develop the necessary knowledge, understanding and skills, while the students take an 'apprentice' role" (p. 28).

The Guided Writing session (01:13:05 - 01:37:12) was also a task-level micro-level scaffold, implemented to support a small group of students – the Reading Rabbits, who "do require additional support" and "do need a bit closer guidance" (Grace, post-lesson interview,

00:07:03 - 00:07:24) – to meet the requirements of the drafting task; and like the Do Daily and Shared Writing session, the content of the Guide Writing session consisted of many moments of point-of-need micro-level scaffolding: to moderate the demands of completing the writing frame, Grace initiated "specific…interactions" (Hammond & Gibbons, 2001, p. 6; see Table 17) to support the students to write a text "more complex than text they could write on their own" (Annandale et al., 2005, p. 17).

Table 17

Details of layers of micro-level scaffolding (task-level and point-of-need) that occurred during Part 3 of the lesson (Writing)

Instructional procedure (task-level micro-level scaffold)	Time in lesson and description of moment of point-of-need micro-level scaffolding	Intended purpose/effect of moment
Shared Writing	00:53:12 - 00:56:02 To class: "we've finished that Do Daily but we will use those skills we practised in our Do Daily to help us with our writing."	Links content of Do Daily to writing task: knowledge and skills just developed will shortly be applied.
	00:56:02 - 00:57:58 Students watch the PES film *Submarine Sandwich*: "So we're going to be writing some instructions on how to make a submarine sandwich, but we're going to watch the film first, OK?"	Establishes the context for writing: purpose and content.
	00:57:58 - 01:02:15 Students watch *Submarine Sandwich* again, "…think[ing] about the actions that happen in the film when he's making the sandwich."	Focuses students' attention on the linguistic features of procedural texts: "So our sentences are going to start with actions. So think about sprinkle, sliding, placing, what are the actions he does when her makes his submarine sandwich."
	00:59:39 - 01:02:15 Pauses film at 00:00:22 and discusses action: "What's the action?"	As above + models the selection of precise vocabulary.
	01:04:28 - 01:07:44 Models the process of completing the writing frame, thinking aloud and including the students in decision-making.	Think-alouds and interaction with students clarifies task expectations.

	01:07:44 - 01:11:42 While modelling the process of completing the *Steps* section of the writing frame, states "…this is where we need to think about our actions."	Focuses students' attention on the linguistic features of procedural texts + reiterates the purpose of prior activities and links to current activity.
Guided Writing (with the Reading Rabbits)	01:15:30 - 01:16:16 Engages in a question/answer exchange with the students re the content of the *Goal* section of the writing frame.	Clarifies students' thinking.
	01:17:27 - 01:17:40 Engages in a question/answer exchange with a student re the layout (i.e., dot-pointed list) of the *Materials/Equipment* section of the writing frame.	Clarifies student's thinking; clarifies task expectations.
	01:17:41 - 01:17:48 Engages in a question/answer exchange with a student re the layout (i.e., dot-pointed list) of the *Materials/Equipment* section of the writing frame.	Clarifies student's thinking; clarifies task expectations.
	01:19:00 - 01:19:26 Engages in a question/answer exchange with a student re the layout (i.e., dot-pointed list) of the *Materials/Equipment* section of the writing frame, provides direction: "If we're making a list, try to do them underneath one another or make two lines."	Clarifies student's thinking; clarifies task expectations.
	01:23:20 - 01:26:04 Engages in a question/answer exchange with a student re the process of writing the steps.	Clarifies student's thinking; clarifies task expectations, particularly re beginning each step with an action verb.
	01:26:11 - 01:26:40 Engages in a question/answer exchange with a student re selection of a variety of precise action verbs for the steps.	Clarifies task expectations and supports the student to meet these.
	01:27:05 - 01:33:33 Engages in a question/answer exchange with a student re selection of a variety of precise action verbs for the steps (student has overused *sprinkle*).	Clarifies task expectations and supports the student to meet these.
	01:34:45 - 01:37:12 Engages in a question/answer exchange with a student re selection of a variety of precise action verbs for the steps (student has overused *put*).	Clarifies task expectations and supports the student to meet these.
Independent Writing	01:19:37 - 01:21:38 Asks the class, "Would anyone like to share what they have done so far with the rest of the class in case someone might be a bit stuck?" Selects two students to read aloud what they have recorded on their writing frames.	Students' work is a model for other students; stimulus; clarifies task expectations.

Micro-level scaffolding, as the application of the KQ-E has revealed, is a complex, multi-layered component of Grace's pedagogy. Across Part 2 and Part 3 of the lesson, she implemented a sequence of task- and sub-task-level micro-level scaffolds that carefully

'stepped' or 'walked' students through a process of accessing, building, shaping and applying a body of knowledge. Moreover, within each of those broad scaffolds, she coordinated a series of moments of point-of-need micro-level scaffolding. Grace's micro-level scaffolding, as Hammond and Gibbons (2001) have described, encompassed "the…selection and sequencing of tasks and…the specific classroom interactions that [were] part of those tasks" (p. 6). Furthermore, through these multiple levels of scaffolding, Grace realised "a progression of teaching practices ranging from high levels of teacher control with a gradual release of responsibility leading to high[er] levels of student control" (Department of Education, 2016, p. 69).

External connectivity: Text-to-world connection. *External connectivity: Text-to-world connection* has a Category Frequency $n = 1$. The moment of teaching to which this category applies occurred during the element SHARED WRITING: ADDRESSES WHOLE CLASS and addressed appreciative-level comprehension. At 00:59:39 - 01:02:15, Grace connected the content of *Submarine Sandwich* – specifically, the action the character was 'doing' (preparing shaved ham, *shaving*) – to what "you might have…seen…at the supermarket, sometimes in the deli." By recognising this possible connection, Grace prompted the students to place themselves within the text and, by recalling comparable real-world experiences, respond to the question, "What's the action?"

External connectivity: Text-to-text connection. *External connectivity: Text-to-text connection* has a Category Frequency $n = 2$. At 00:53:12 - 01:02:15, Grace connected the content of *Possum Magic* – a story about the possums Hush and "Grandma Poss [who] made bush magic" (Fox & Vivas, 1983, p. 3) and their adventure "to find what it was that would make Hush seen" (p. 20) – to the content of *Submarine Sandwich*: "We did a little bit of…writing in response to *Possum Magic*. … Yeah, we were writing instructions of how to make a potion. … So we were writing to instruct. … OK, now we're going to watch a film and then we're going to have a go at planning a piece of writing that is going to instruct

somebody how to make a submarine sandwich." Grace highlighted the common focus of each of the texts – namely, that each was about finding or using ingredients to make something, a potion or submarine sandwich.

At the beginning of the Shared Writing session (01:02:41 - 01:11:42), Grace reminded the students of the template "we've been using for recounts and narratives" and compared/contrasted that template to the writing frame for procedural text that she was about to introduce: "It's a little bit different. It's not quite a hamburger[12]. … So you've still got a structure up the top and you've still got layers down the middle. … The first one says the goal." By comparing/contrasting the structure of these two supports, Grace addressed text form knowledge: she reminded the students of the form and content of the discourse specific to particular contexts and functions, and, moreover, delimited students' understanding of the organisation of procedural texts.

Connection: Summary

Six categories from Connection applied to Grace's pedagogy: *Making connections between concepts*; *Anticipation of complexity*; *Pedagogical cohesion: Macro-level scaffolding*; *Pedagogical cohesion: Micro-level scaffolding*; *External connectivity: Text-to-world connection*; and *External connectivity: Text-to-text connection*. In the context of *External connectivity*, appreciative-level comprehension and text form knowledge was addressed by Grace. Table 18 reiterates, concisely, how the categories from Connection applied to Grace's pedagogy.

[12] A writing template that depicts the structure of a paragraph or whole text as the layers of a hamburger.

Table 18

Summary of how six categories from Connection applied to Grace's pedagogy

Category	Frequency	Application to Grace's pedagogy
Making connections between concepts	8	Grace made connections between: orthography and phonology ("They all rhyme 'cause they've all got the same [ending]"); (b) grammatical units (*subject* and *noun*) and grammatical form (*conjunction*, *verb*) and meaning; and (c) a basic linguistic feature of procedural text – imperative mood – and social purpose.
Anticipation of complexity	2	Recognising the cognitive and linguistic demands that she was about to place on students, Grace interceded during the Do Daily and writing task to ensure that students would be able to successfully "[write] a simple sentence with your buddy that starts an action verb" and complete the writing frame.
Pedagogical cohesion: Macro-level scaffolding	2	Grace connected the current writing task (completion of the writing frame) to similar writing tasks that students had completed in previous lessons.
Pedagogical cohesion: Micro-level scaffolding	27 (5 task-level, 27 point-of-need)	Grace applied multiple layers of micro-level scaffolding "within the broader macro scaffold" (Dansie, 2001, p. 50): the Do Daily was a task-level micro-level scaffold that was, itself, composed of finer layers of point-of-need micro-level scaffolding; likewise, the writing task was comprised of three task-level micro-level scaffolds (Shared Writing, Guided Writing, Independent Writing), with the Shared Writing and Guided Writing sessions each including a layer of point-of-need micro-level scaffolding.
External connectivity: Text-to-world connection	1	Grace prompted the students to bring their knowledge of the world to *Submarine Sandwich*. Addressed appreciative-level comprehension.
External connectivity: Text-to-text connection	2	Grace connected the content of *Possum Magic* to the content of *Submarine Sandwich* and briefly compared/contrasted the content and form of procedural text to recount and narrative. Addressed text form knowledge.

Hereunder, the categories from Contingency that apply to Grace's pedagogy are addressed.

Contingency: Categories Relevant to Grace's Teaching

Analysis indicates that Contingency has a Dimension Frequency $n = 14$. From it, the category *Responding to students' ideas* applies to Grace's pedagogy. The moments of teaching that are coded *Responding to students' ideas* appear, generally, to be low-level (i.e., straightforward, uncomplicated, qualitatively unsophisticated) examples of this practice. One

of the codings is opportune. Below, explanations of the applicability of the category are made with reference to material from the lesson.

Responding to students' ideas. The category *Responding to students' ideas* has a Category Frequency $n = 14$ (13 actual, 1 opportune; the opportune coding is addressed below under *Implications*). The 13 moments of Grace's teaching that are actually coded *Responding to students' ideas* occurred during Part 1, Part 2 and Part 3 of the lesson, as per Table 19.

Table 19

Details of moments of teaching (listed chronologically) actually coded Responding to students' ideas

Time in lesson	Description of moment	Purpose/effect of moment
00:05:44 - 00:06:23	Checking the work a student completed in his spelling booklet, question-answer exchange re words that rhyme with *think*.	Accepts/praises student's response (*sink*).
00:13:17 - 00:13:49	Checking the work a student completed in his spelling booklet, question-answer exchange re *-ot* words.	Accepts/praises the student's responses (*dot*, *tot*).
00:30:17 - 00:31:17	Class discussion, question-answer exchange re question "What is a sentence?"	Accepts a student's response and uses this information to shape the ensuing discussion.
00:31:43 - 00:33:16	Continuation of above class discussion, question-answer exchange. Poses question: "What is a conjunction?"	Accepts a student's response and uses this information to shape the ensuing discussion.
00:33:16 - 00:34:04	Continuation of above class discussion, question-answer exchange. Poses questions: "A verb. Does it have to have a verb? What is a verb."	Tacitly accepts the affirmative responses to "Does it have to have a verb?" and uses this information to shape the ensuing discussion.
00:41:43 - 00:45:56	Class discussion, question-answer exchange re identification of action verbs in commands.	Accepts students' responses.
00:51:15 - 00:01:52	End of Do Daily, student shares commands.	Accepts student's contributions, noting that "all [start] with an action verb."
00:52:05 - 00:52:30	End of Do Daily, student shares commands.	Accepts student's contributions, tacitly indicates that syntax is accurate.
00:53:00 - 00:53:10	End of Do Daily, student shares commands.	Accepts student's contributions, tacitly indicates that syntax is accurate.
01:07:44 - 01:11:42	During modelling of completion of the writing frame, asks the class, "What's the action I would make? … What action?"	Accepts students' responses, incorporating their suggestions into the content of the plan being written on the writing frame.
01:15:30 - 01:16:16	During Guided Writing with Reading Rabbits group, asks "…what's the goal of writing these instructions? What do we want at the end?"	Accepts a student's response and tacitly prompts the students in the group to add this information ('To make a submarine sandwich') – to the *Goal* section of their writing frames.
01:40:01 - 01:41:35	During whole-class sharing near close of lesson, asked a question regarding the structure of the genre: "Why would we want to put the action at the beginning of the sentence?"	Accepts a student's response and uses this information to shape the ensuing discussion.

01:41:53 - 01:44:00	End of lesson, two students read the 'Steps' section of their instructions to the class.	Commends students' efforts, tacitly indicates that syntax is accurate.

Contingency: Summary

From Contingency, *Responding to students' ideas* applied to Grace's pedagogy (*n* = 14; 13 actual, 1 opportune). Her practice of responding to students' ideas often took the form *acknowledge and incorporate* (see Chapter 2): she confirmed, overtly or tacitly, the (in)validity of the responses that students provided to questions and, in the case of valid responses, often used that content to shape ensuing discussion.

Realisation: Summary

Grace's lesson with her Grade 2 students consisted of three parts: (1) Spelling; (2) Do Daily; and (3) Writing. The middle and latter parts of the lesson – Do Daily and Writing – were shaped by objectives that were captured by the KQ-E category *Awareness of purpose*:

- to develop students' understanding of the syntax of the imperative mood, or commands; and
- to have students successfully apply that knowledge in the context of drafting a set of instructions.

In relation to these objectives, Grace's pedagogy included opportunities for students to marshal, develop and apply their knowledge through social interaction. Moreover, those opportunities occurred within a sequence of carefully scaffolded tasks, or elements. Grace's application of (a) the Turn-and-Talk strategy and (b) the Gradual Release of Responsibility model (Pearson & Gallagher, 1983; Duke & Pearson, 2002) – realised through her application of the instructional procedures Shared Writing, Guided Writing and Independent Writing – indicates that her pedagogy is informed by social-constructivist/Vygotskian (1962, 1978) notions of learning. The moments of Grace's pedagogy that illuminated these

conceptual underpinnings were captured by the KQ-E category *Theoretical underpinning of pedagogy*. Content from post-lesson interview further supports the view that social-constructivist/Vygotskian theory provides a basis for Grace's pedagogy.

Grace's application of the instructional procedures Shared Writing, Guided Writing and Independent Writing was (co-)captured, also, by the categories *Use of instructional procedures* and *Pedagogical cohesion: Micro-level scaffolding (task-level)*. Applied as they were, these procedures formed – and, captured by *Awareness of complexity*, reflected Grace's recognition of the need for – a pedagogical context in which the general level of teacher support, or task-level scaffolding, provided to students was deliberately managed. Initially, the level of support, or 'rigidity' of the scaffolding, was high. In the Shared Writing session with the whole class, Grace modelled the process of completing the writing frame, thereby elucidating task requirements. Most of the students were then able to complete the drafts of their instructions independently. For some students, however, a supplementary layer of support, or 'flexible' scaffolding, was needed: Grace provided the students in the Reading Rabbits group with additional support by applying the Guided Writing procedure. Prefiguring the application of this arrangement of instructional procedures, or series of task-level micro-level scaffolds, the Do Daily was, also, a task-level micro-level scaffold (and consisted, itself, of two sub-task-level micro-level scaffolds, the elements SIMPLE SENTENCES TASK: ADDRESSES WHOLE CLASS and COMMANDS TASK: ADDRESSES WHOLE CLASS). Through the Do Daily, students developed the knowledge needed to properly complete the 'Steps' component of their draft instructions. They saw this knowledge being applied by Grace during the Shared Writing session before applying it themselves (or with additional support from Grace).

The sequence of task-level micro-level scaffolds that Grace implemented helped students achieve the goals of the lesson. Within each of these task-level micro-level scaffolds, however, a 'finer', and pedagogically powerful, layer of micro-level scaffolding

was applied. Each task-level micro-level scaffold included moment-by-moment, or contingent/point-of-need, micro-level scaffolds – moments of dialogue, captured by the category *Pedagogical cohesion: Micro-level scaffolding (point-of-need),* wherein students 'talked their way to understanding', mostly with peers, sometimes with Grace. External dialogue, Vygotsky (1962, 1978) argued, becomes the resource for independent thinking. As the students 'talked their way through' questions and tasks, and watched and listened to Grace, they developed the knowledge and cognitive resources needed to complete their draft instructions.

To begin Part 3 of the lesson, Grace showed the class the 2-minute stop-motion film *Submarine Sandwich* by PES (https://www.youtube.com/watch?v=EWEl8-PHhMI). She wanted to provide the students with "ideas", "a stimulus…to actually get some thoughts on what you can write about" (Grace, post-lesson interview, 00:26:17 - 00:26:53, 16/11/2016). Her selection of *Submarine Sandwich* was captured by the category *Choice of text*.

The category *Identifying pupil errors* applied to moments of Grace's pedagogy, particularly during Part 1 of the lesson, when she was checking the work that students had completed in their spelling booklets. Sometimes, these moments were co-coded *Making connections between concepts*: in the process of remedying misapprehensions related to rhyme, Grace illuminated the connection between orthography and phonology. In other parts of the lesson, she made connections between (a) different grammatical units; (b) grammatical form and meaning; and (c) the characteristic linguistic features of the procedural genre and its intended social purpose.

During the lesson, Grace and the students applied a shared metalanguage that included terms related to grammar (traditional, parts of speech). Use of technical terminology was captured by the KQ-E category *Use of English terminology*.

Other categories of the KQ-E applied to Grace's pedagogy: from Foundation, *Overt display of subject knowledge*; from Transformation, *Teacher demonstration, Use of*

instructional materials and *Choice of examples*; from Connection, *Pedagogical cohesion: Macro-level scaffolding*, *External connectivity: Text-to-world connection* and *External connectivity: Text-to-text connection* and from Contingency, *Responding to students' ideas*. Multiple dimensions and categories applied to those tracts of teaching that, as pedagogically critical junctures of the lesson, involved substantive teacher talk (e.g., rich instructional monologues) and, often, teacher-student dialogue in which Grace reflected-in-action to cogently reconcile student input with her pedagogical intent. The chapter now turns to those aspects of Grace's pedagogy that application of KQ-E has suggested might be the focus of reflection and improvement.

Implications

The application of the KQ-E to the pedagogy-of-subject-English demonstrated by Grace illuminated knowledge bases and teaching practices that appeared to positively impact students' English/literacy learning. Most obviously, application of the KQ-E illuminated the multiple layers of micro-level scaffolding that comprised the architecture and interactional fabric of the lesson – namely, a series of deliberately sequenced tasks that cumulatively developed the knowledge that students would apply to a writing task; and which, moreover, were composed of point-of-need transactions that mediated learning. Furthermore, these tiers of support were situated within, or articulated with, a macro-level scaffold.

Application of the KQ-E revealed, also, that a clear sense of purpose circumscribed Grace's pedagogy. As the seven moments of teaching coded *Awareness of purpose* – and, as well, the eight moments of teaching actually coded *Overt display of subject knowledge* – indicate, Grace was cognisant of the knowledge that she wanted her students to learn and apply. As a result of that clarity, she was able to explicate (a) the essential concepts of the topic and, as the application of the categories *Pedagogical cohesion: Micro-level scaffolding* and, moreover, *Theoretical underpinning of pedagogy* and *Use of instructional procedures*

revealed, (b) the *processes* for learning – which, in Part 3 of the lesson, involved differentiating the level of support given to students (intimating, therefore, that a category *Knowledge of students* could, perhaps, figure in the KQ-E). The KQ-E also highlighted aspects of Grace's pedagogy that could be the subject of professional conversations that might enhance teaching and learning.

In the section *Realisation*, reference is made to two opportune codings that were applied to Grace's teaching, one for each of the categories *Overt display of subject knowledge* and *Responding to students' ideas*. These opportune codings indicate the potential of the KQ-E to highlight pedagogical content knowledge that, if explored, discussed and developed through collegial dialogue, might augment the efficacy of Grace's pedagogy. This section of the chapter explicates the moments of the lesson to which the opportune codings applied (Table 20), and proposes how Grace might develop her knowledge bases and teaching practices to improve student learning.

Table 20

Moments of teaching to which opportune codings apply

Moment in the lesson: Time, brief description, transcript	Opportune coding that applies + brief explanation	
00:34:10 - 00:34:51 During the Do Daily, students were considering and responding to Grace's request to develop a simple sentence: "I want you to have a talk with your buddy and I want you to see if you can come up with a simple sentence, OK. Now a simple sentence is…about one subject, OK."	**Opportune coding** **Explanation**	*Overt display of subject knowledge* A simple sentence may have multiple subjects, which may be coordinated to form a single, longer noun phrase called a compound subject.
00:07:18 - 00:08:08 Grace checks the task a student has completed in his spelling booklet. She asks: "What's that sound make?" [Student pronounces 'gnaw' as 'now'.] "'Gnaw', 'gnaw'."	**Opportune coding** **Explanation**	*Responding to students' ideas* Grace does not address the orthography-phonology of *gnaw*; specifically, the vocalic digraph *-aw* (*flaw*, *raw*, *saw*). The student's mispronunciation may have been caused be a visual miscue, but Grace does not attend to the -aw (vs -ow of *now*) letter pattern, apart from pronouncing *gnaw* correctly for the student.

Opportune coding: ***Overt display of subject knowledge***

Grace's declaration, at 00:34:10 - 00:37:11, that "a simple sentence is…about one subject" is problematic: a simple sentence may have one subject; however, a simple sentence may – and often does – have multiple subjects, which are typically coordinated to form a compound subject. Moreover, Grace indicated, during a dialogue with a student at 00:28:28 - 00:41:41, that a noun is the form by which the subject of a sentence is realised: "What could we call that subject? There's another word for it." STUDENT: "A noun or a name." This, too, is problematic: while the subject of a sentence may be realised by a noun, other forms are common, as per Table 21:

Table 21

Forms by which the subject of a sentence may be realised

Form	Example
Noun (phrase) or pronoun	**The large car** stopped outside our house.
A gerund (phrase)	**His constant hammering** was annoying.
A *to*-infinitive (phrase)	**To read** is easier than to write.
A full *that*-clause	**That he had traveled the world** was known to everyone.
A free relative clause	**Whatever he did** was always of interest.
A direct quotation	**I love you** is often heard these days.
Zero (but implied) subject	Take out the trash!
An expletive	**It** is raining.
A cataphoric *it*	**It** was known by everyone that he had traveled the world.

"Subject (grammar)", 2017, para. 6

During post-lesson interview, Grace commented that her conscious knowledge of grammar – specifically, of parts of speech – was developing:

> I don't consider myself bad at English but when it comes to the theoretical side of it, I've had to learn that all over again since I've been a teacher and in those first couple of years teaching, I was spending my time at home working out what is 'verb', what is 'noun', what are all the other words I could call those things? And then, actually, being able read a sentence and then being able to spot the different – what each of them are. … I didn't even know what an adjective was. I knew what an adjective was because I use them, but I didn't know 'that's an adjective'. (00:10:43 - 00:11:59, 28/07/2016)

Grace highlights a challenge that many teachers faced when the *Australian Curriculum: English* (ACARA, 2016a) was implemented in 2012. For many years, the

systematic teaching of grammar had, due to "international moves since Dartmouth [that]…favour[ed]…English curricula which promoted growth in language…and…self-expression and/or independent learning" (Christie, 2010, p. 58), been absent from Australian (including Tasmanian) classrooms (Jones & Chen, 2012; Thomas, 2014). A major portion of the *Australian Curriculum: English,* however – the *Text structure and organisation* and *Expressing and developing ideas* sub-strands of the Language strand – is concerned with "patterns and purposes of English usage, including spelling, grammar and punctuation at the levels of the word, sentence and extended text, and…the connections between these levels" (ACARA, 2016a, p. 9). As Grace indicated, these components of the curriculum have implications regarding teachers' conscious knowledge of grammar, which a body of research evidence (e.g., Hammond & Macken-Horarik, 2001; Harper & Rennie, 2009; Myhill, 2005; Short, 2010) found "patchy and idiosyncratic" (Brumfit, Mitchel & Hooper, 1996, p. 86), deficient for the purposes of implementing the curriculum. Grace:

> I've had to sit at home and, literally, talk with my partner who's pretty switched on with that sort of thing and be like, 'Is that…? I don't know'. … And that's the thing, like…I think, 'I've got to know this information because otherwise I can't teach it correctly'. (Grace, post-lesson interview, 28/07/2016, 00:16:43 - 00:17:07)

Myhill, Jones, Lines and Watson (2012) refer to 'knowledge of grammar' as "Linguistic Subject Knowledge (LSK)" (p. 142), which includes being able to recognise, name and apply different grammatical categories (e.g., *noun, verb*; *subject, object*; sequencing of *subject, verb* and *object*) *and* "the ability to *explain grammatical concepts clearly* [emphasis added] and know when to draw attention to them" (p. 142). Grace's teaching of the constituents of a simple sentence was problematic, shaped, it seems, by a partial knowledge base. She promulgated misconceptions by (a) stating that "a simple

sentence…is about one subject" and (b) suggesting the grammatical concepts *subject* and *noun* are synonymous, the former always taking the form of the latter.

The augmented Linguistic Subject Knowledge (LSK) demanded by the *Australian Curriculum: English* (ACARA, 2016a) has, Love, Macken-Horarik and Horarik (2015) observed, "stretched teachers beyond their comfort zones" (p. 171). Grace does, nevertheless, appear keen to expand her knowledge of grammar, which, confidently mobilised, would lessen the likelihood of incorrect or problematic statements that promulgate misconceptions. Ma (1999, 2010) emphasised the importance of teachers having profound (i.e., deep, coherent) subject knowledge. To achieve this, Grace could, for example, access relevant professional learning – "I've never really done a professional learning or something that makes me feel confident in teaching grammar" (Grace, post-lesson interview, 00:12:21 - 00:12:31, 28/07/2016) – or co-plan lessons – and, specifically, explanations of grammatical concepts – with a colleague whose LSK is well-developed. To remediate the issues that occurred in the current lesson, Grace could (co-)develop a Do Daily that addresses the following:

a) that a simple sentence may contain multiple subjects (coordinated to form a compound subject); and
b) that *subject* may be realised in different ways. (Given the focus of the current lesson, *zero (but implied) subject* might provide a suitable gateway to the topic.)

Despite providing incorrect and problematic explanations, and despite feeling that "I'm not…confident enough to teach it [i.e., grammar] and…it's not going to be taught well" (Grace, post-lesson interview, 00:17:07 - 00:17:11), Grace successfully "fashion[ed] [a context for her] students' acquisition of…necessary knowledge and skills" (Jones & Chen, 2012, p. 147) – namely, to *Understand that different types of texts have identifiable text structures and language features that help the text serve its purpose (ACELA1463)* (ACARA,

2016a, p. 36). Together, the Do Daily and writing task (completion of the writing frame) emphasised the rhetorical power of grammar. As Myhill (2011) argued, "the potentiality of grammar lies not in crude applications of prescriptive rules to correct children's writing but in opening up possibilities, making tacit patterns and ways of making meaning explicit" (p. 92). Integrating the study of grammar into the composition of text, Grace's teaching illuminated the 'ways of making meaning' that are characteristic of procedural text and yielded immediate 'pay offs' in terms of students' writing.

Opportune coding: *Responding to students' ideas*

As per Table 20, at 00:07:18 - 00:08:08, Grace's response to a student's mispronunciation of *gnaw* (*now*) was limited to pronouncing the word correctly; no attempt was made to isolate and resolve the underlying cause of the error. The student also mispronounced *calm* as *clam,* which Grace did unpack, albeit cursorily: "'Clam' would have a 'c-l', it's got a silent 'l'. So it's 'calm'." As Grace's response ("'Clam' would have a 'c-l'…") implies, the mispronunciations may have been caused by graphophonic miscues. Reading miscues are categorised as (a) graphophonic (or visual, V), (b) syntactic (or structure, S) or (c) semantic (or meaning, M) (Goodman & Burke, 1972; Goodman, Watson & Burke, 2005; Clay, 2013) and, as Temple, Ogle, Crawford and Freppon (2011) observed, "should not be dismissed as matters of ignorance [but]…are signs of children's efforts to understand, to find meaning, and to gain competence in written communication" (p. 332). Graphophonic (or visual, V) miscues involve "the strings of letters on the page" (p. 332) or, as Clay (2013) said, "Did visual information from the print influence any part of the error: letter, cluster or word?" (p. 71). Both of the student's miscues/mispronunciations involved the medial letters/sounds of each word (*-aw* and *-al*). These, Tankersley (2003) noted, often challenge young readers: "[I]t is easier to distinguish beginning sounds than medial or final

sounds" (p. 18). The student appears to have processed orthographic data (graphemes) incorrectly, causing phonological misrepresentation.

Vis-à-vis the *gnaw/now* mispronunciation, Grace needed, at least, to highlight the -*aw* digraph. She could, also, provide the student with a spelling/LSCWCh list composed of -*aw* and -*ow* words and tasks that involve "recognising letter combinations, and the sounds they represent" (Annandale et al., 2004, p. 145), including Word-Sorting Activities, Exploring Words, Change a Letter, Making Words, What Comes Next? and Sound Hunter (pp. 183-188). She could also provide the student with visual discrimination tasks involving -*al* and -*la* words.

In post-lesson interview, Grace acknowledged doubts regarding the efficacy of her spelling program: "And I'm not perfect with my spelling, I know I'm not" (00:18:33 - 00:18:36, 28/07/2016). She uses the *Single Word Spelling Test* (*SWST*) (Sacre & Masterson, 2000) to give structure to her program – "They did a test earlier in the year and I levelled them according to that" (00:18:29 - 00:18:32, 28/07/2016) – and develop spelling/LSCWCh lists: "I get those from the Single Word Spelling Test" (00:18:23 - 00:18:25, 28/07/2016). She "just do[es]n't really know any other way to do it" (00:18:40 - 00:18:42, 28/07/2016). The student's spelling/LSCWCh list, taken directly from the *SWST* resource, was composed of words that featured a silent *g* (*gnash, gnaw*) or silent *l* (*calm, salmon*). Grace: "…how do they get exposed to news words and how do they practise the patterns in words, which I think that Single Word Spelling Test is really great for" (00:19:22 - 00:19:32, 28/07/2016). Grace is mindful, it appears, of the need to expose her students to "new words" and the convolutions of English orthography: "Developing a curiosity about words…is…key to a successful spelling program" (Department of Education, 2016, p. 79). She may also need to be (more) conscious of, and attend to, the cueing systems that students are using to process text.

Summary: The *Knowledge Quartet – English* and Grace's pedagogy-of-subject-English

The pedagogy that Grace, a teacher of eight years' experience, applied during a lesson with her Year (Grade) 2 primary school students was described and analysed. Grace devoted the bulk of the lesson to developing, via careful scaffolding, her students' *[u]nderstand[ing] that different types of texts have identifiable text structures and language features that help the text serve its purpose (ACELA1463)* (ACARA, 2016a, p. 51). Specifically, she addressed the distinctive linguistic attributes of procedural text – namely, the syntax of commands (imperative mood) and precise action verbs. The students developed their knowledge of the 'language of commanding' during the Do Daily and, then, applied it while completing their writing frames.

Vis-à-vis Research Question 1, *To what extent is the content of the KQ applicable to the pedagogy of subject English?*, analysis revealed that 11 categories from the framework developed by Rowland et al. (2005, 2009) were applicable to Grace's pedagogy:

- from Foundation, *Theoretical underpinning of pedagogy*; *Awareness of purpose*; *Identifying pupil errors*; *Overt display of subject knowledge*; and *Use of English terminology*
- from Transformation, *Teacher demonstration*; *Use of instructional materials*; and *Choice of examples*
- from Connection, *Making connections between concepts* and *Anticipation of complexity*
- from Contingency, *Responding to students' ideas*

Six of the categories that emerged in the course of this research, and which have been added to the original KQ to form the KQ-E, applied to Grace's pedagogy:

- from Foundation, *Choice of text*

- from Transformation, *Use of instructional procedures*
- from Connection, *Pedagogical cohesion: Macro-level scaffolding*; *Pedagogical cohesion: Micro-level scaffolding*; *External connectivity: Text-to-world connection*; and *External connectivity: Text-to-text connection*

These categories, indicated in the list below by an asterisk (*), capture pedagogical activity that appears to be characteristic of the pedagogy-of-subject-English.

Eleven categories were not applicable to Grace's pedagogy: from Foundation, *Adherence to textbook* and *Concentration on procedures*; from Transformation, *Choice of representations*; from Connection, *Making connections between procedures*; *Recognition of conceptual appropriateness*; *Decisions about sequencing*; *Connections within text*; and *External connectivity: Text-to-self connection*; and from Contingency, *Deviation from lesson agenda*; *Teacher insight*; and *Responding to the (un)availability of tools and resources*.

Analysis revealed that Connection is the dimension of the KQ-E that most applied to Grace's pedagogy (Dimension Frequency $n = 42$), followed by Foundation (Dimension Frequency $n = 41$; 40 actual, 1 opportune), Contingency (Dimension Frequency $n = 14$; 13 actual, 1 opportune) and Transformation (Dimension Frequency $n = 10$). Below, the 16 categories that pertained to Grace's pedagogy are ranked in descending order according to frequency of applicability:

- *Pedagogical cohesion: Micro-level scaffolding* ($n = 27$; 5 task-level, 22 point-of-need)*
- *Responding to students' ideas* ($n = 14$; 13 actual, 1 opportune)
- *Identifying pupil errors* ($n = 10$)
- *Theoretical underpinning of pedagogy* ($n = 9$)
- *Overt display of subject knowledge* ($n = 9$; 8 actual, 1 opportune)
- *Making connections between concepts* ($n = 8$)

- *Awareness of purpose* (*n* = 7)
- *Use of English terminology* (*n* = 5)
- *Teacher demonstration* (*n* = 5)
- *Choice of examples* (*n* = 1)
- *Use of instructional procedures* (*n* = 3)*
- *Anticipation of complexity* (*n* = 2)
- *Pedagogical cohesion: Macro-level scaffolding* (*n* = 2)*
- *External connectivity: Text-to-text connection* (*n* = 2)*
- *Choice of text* (*n* = 1)*
- *Use of instructional materials* (*n* = 1)
- *External connectivity: Text-to-world connection* (*n* = 1)*

Vis-à-vis Research Question 2, *What do the categories of the KQ, and any new categories, 'look like' in the context of the pedagogy of subject English? What do they capture?*, the two sets of data that pertain to the lesson – (a) the results of the application of the KQ-E and (b) corroborating evidence gathered post-lesson – indicate, overall, that Grace's pedagogy reflects, strongly, a social-constructivist/Vygotskian (1962, 1978) orientation to learning:

- her teaching practices support the communicative processes by which knowledge is co-constructed between people; and
- she appears able to judge, accurately, the form of the scaffolding needed to move her students from A to B – that is, from the lower to the upper limits of their zones of proximal development: as Grace stated, "Yeah, it's really breaking down. And I think the more you teach it, the more you realise actually how much each piece of writing has. … You have to sort of know your students, I guess" (Grace, post-lesson interview, 28/07/2016, 00:06:28 - 00:09:26).

The scaffolded-interactive program of instruction that Grace orchestrated was guided by a clear purpose (captured by *Awareness of purpose*) that was gradually disclosed to students. It was characterised, also, by Grace's thoughtful application of three instructional procedures – Shared Writing, Guided Writing and Independent Writing. Also, Grace and the students shared and applied a metalanguage that included terms from the field of traditional grammar.

Vis-à-vis Research Question 3, *What potential might a KQ for subject English have, or demonstrate, to enhance the pedagogy of teachers of subject English?*, the application of the KQ-E to the pedagogy-of-subject-English demonstrated by Grace illuminated categories of teaching activity that intersect and inform one another, and which, through that interaction, give shape and substance to a pedagogical context that appears to positively impact English-literacy learning: (1) clarity of purpose, which informs (2) the sequencing of tasks that cumulatively build students' knowledge; and which, also, within the context of those sequenced tasks, drives (3) an interactive approach to instruction that is responsive to the needs of all learners. Two opportune codings – one for *Overt display of subject knowledge* and one for *Responding to students' ideas* – highlighted issues with Grace's LSK and the configuration of her spelling program. These issues could be the subject of professional conversations that aim to improve teaching and learning.

The chapter turns, now, to analysis of the pedagogy-of-subject-English demonstrated by Zahra in a lesson with her Year (Grade) 4/5 primary school students. The lesson, described below, was conducted toward the end of the school year.

Zahra:
Year (Grade) 4/5 Primary School Subject English Lesson

Descriptive Synopsis of Lesson

Zahra has 18 students in her Year 4/5 class, none of whom were absent at the time of observation. One of her students has an Individual Education Program (IEP) and received Teacher Aide support during the first part of the lesson. A pre-service teacher completing a practicum in Zahra's classroom was not present during the observation. The lesson began after the students had returned from a physical education activity. Zahra called the students to the floor at the front of the classroom and introduced the focus of the first part of the lesson: "[W]e are going to go over our spelling" (00:00:00 - 00:02:10). She reminded the students in spelling groups 1, 2, 4 and 5 of the tasks they needed to complete – Group 1, speed sort; Group 2, strategies box; Group 4, "you'll need to word sort your new words" (00:02:41 - 00:02:57); Group 5, partner test – and told the students in Group 3 that "[y]ou'll be working with me" (00:02:13 - 00:02:27). The students in groups 1, 2, 4 and 5 then moved to their desks and proceeded to work independently on the assigned tasks, while the students in Group 3 stayed on the floor.

Zahra distributed a copy of a table of words to each of the students in Group 3. The table consisted of six base words (*cry*, *fry*, *play*, *spray*, *spy*, *stay*) and, for each of these base words, three derivatives formed by the addition of the suffixes *-ed*, *-ing* and *-s* (i.e., *cried*, *crying*, *cries*, etc.). The 24 words were not presented logically; rather, they were scattered randomly throughout the table. Before the students "read [the words]…out loud so that we can understand them" (00:08:55 - 00:11:27), Zahra asked the group, "What does it mean by 'base word'?" and, "What do I mean by plus *-s*, plus *-ed* and plus *-ing*?" (00:08:55 - 00:11:27). She accepted the students' ideas: a base word is "[t]he 'original word', that's a good way of saying it" (00:08:55 - 00:11:27) and the addition of suffixes to base words refers to "past, present or future words" (00:11:27 - 00:12:29). Zahra and the students then read the

table of words aloud before "cut[ting] them out and…do[ing] a word sort" (00:11:27 - 00:12:29).

As the students sorted their words into four columns (base word, plus *-ed*, plus *-ing*, plus *-s*), Zahra identified the focus of the learning – "[T]oday, what we're looking at, is changing that *y*" – and provided a rationale for it: "I've noticed in your spelling that lots of people, when we're writing words that end in this *y*, aren't putting the right ending on them. Or we're leaving that *y* there" (00:12:33 - 00:13:25). Then, through a question-answer exchange with a student, she described the *y* in *cry*, *fry* and *spy* as "[a] wanna-be vowel" (i.e., a consonant letter representing a vowel sound; in this case, the long *i* sound, /aɪ/) before telling the group that "there's a couple of rules that I'm going to teach you today to do with this *y*" (00:13:33 - 00:13:48). For the next 15 minutes, and while the students continued to sort their words, Zahra led a question-answer exchange that was intended to illuminate the "couple of rules" that apply to adding *-ed*, *-ing* and *-s* to *cry, fry, play, spray, spy* and *stay*: she encouraged the students to "[s]ee if you can find some patterns or some discovery or findings about those words" (00:21:46 - 00:22:14) and asked them why the *y* in *cry* is changed to *i*/*ie* when adding *-ed* and *-s* (*cr<u>i</u>ed*, *cr<u>ie</u>s*) but remains when adding *-ing* (*cr<u>y</u>ing*). With respect to *cry*/*crying*, Zahra explained that "if we were to put an *i* there it would be double *i* and that would look a bit silly, wouldn't it? Sometimes with our English language we don't ever put the double vowel when we're adding on *-ing*" (00:23:19 - 00:24:47); with respect to adding *-ed* and *-s* to the base words, she articulated, eventually, the applicable rules:

- when the word ends with a consonant + *y*, change the *y* to an *i* and add *-ed*/*-es*
- when the word ends with a vowel + *y*, leave the *y* and add *-ed*/*-s*

The session concluded with a challenge for the students in Group 3: "I want…you tomorrow to come back to me and let me know what happens with *ski*: how we write it, how

you spell it and then what happens with that *-ing* pattern, keeping in mind our rules here. That's a challenge for you."

Zahra called the class to the floor for the next part of the lesson. Learning intentions had been written on the easel (but were never consulted): *We are learning to:*

- *Write an effective orientation*
- *Write effective dialogue the contains speech and actions*

Zahra began by asking the students if they knew of any picture books written by Australian children's author Mem Fox (one student was familiar with *Good Night, Sleep Tight* or *Time for Bed,* but mistakenly referred to the book as "Sleep Time"; 00:32:04 - 00:34:17). She then addressed the focus of the learning (including rationale) and introduced *Feathers and Fools,* the picture book by Mem Fox (illustrations, Nicholas Wilton) the students would be studying:

> I noticed that when we did our NAPLAN[13]s and when we're having a look at writing stories, a lot of us…we had some gaps in our writing, so we're going to start looking at the orientation of our writing and we're also going to have a look at how we write using speech marks appropriately and effectively…: how it states how we move and how the character moves and things that occur in the text. So I'm going to start using some more technical language, start using the language that Mem Fox uses to help describe her story and help set the scene. The book that I've got is actually up on the screen for you to have a

13 The *National Assessment Program – Literacy and Numeracy* (NAPLAN); in Australia, the compulsory "annual national assessment [in reading, writing, language conventions (spelling, grammar and punctuation) and numeracy] for all students in Years 3, 5, 7, and 9" (ACARA, 2016b, para. 1).

look at as well, and that is the front cover of *Feathers and Fools*. (00:33:21 - 00:34:22)

Zahra then asked the students to "have a think and predict: What do you think the story will be about?" (00:34:25 - 00:34:55). Students turned and talked to a partner about their predictions before Zahra coordinated a short whole-class discussion, which included her questioning the students about the possible meanings of 'feathers' and 'fools' and the physical capabilities of peacocks and swans (the two birds that featured on the cover of the book, displayed on the IWB). Zahra then showed the class the silhouettes of several birds: emu, owl, sparrow, crow, chicken, duck, peacock and swan. The students enjoyed identifying/naming each bird. Zahra then, with student input, modelled the process of categorising the birds according to their physical capabilities: strong, capable flyer (owl, sparrow, crow, swan) or weak/limited flying ability (emu, chicken, duck, peacock). She then divided the class into groups of four, selected one student from each group to act as scribe, and explained the next task: each group was given a copy of a blank Venn diagram and instructed to "compare the two…the peacocks and the swans. … I want you to tell me: What's the same about both of those birds? So in the *both* category. Then I want you to tell me: What's different? … Peacocks down here: What's different to the swans? Swans on this side" (00:44:17 - 00:45:57). The groups then moved to desks and spent the next 10 minutes completing their Venn diagrams. Zahra circulated the classroom and monitored/supported students. At 00:58:18, the groups returned to the floor for sharing.

Before reading *Feathers and Fools* to the class, Zahra provided a rationale for "getting you to look at the differences and similarities between peacocks and swans": "…I need to know your prior knowledge and that's really important when you're picking up books and you're going to be delving into what the author's trying to say and their meaning" (01:04:00 - 01:04:35). She then reiterated, albeit obliquely, the point about using the book as

the basis for learning about "the orientation of our writing and…how we write using speech marks appropriately and effectively" (00:33:21 - 00:34:22) and, then, read *Feathers and Fools* to the class. Each page of the book was displayed on the IWB (https://www.youtube.com/watch?v=hzF9P6fDBOA), making Wilton's detailed illustrations easier to see and appreciate.

After reading the story, Zahra instructed the students to "[t]urn and talk to the people around you about what you've noticed about the story" (01:13:22 - 01:13:26). To conclude the lesson, Zahra ask the students to "form a circle" and called on several individuals to "share what they were discussing with their partner or the people around them" (01:14:34 - 01:14:51). She closed the lesson by reiterating, again, the purpose for studying *Feather and Fools*: "So we are going to study and unpack this book. So we will become familiar with the language and hopefully start to use some technical language, some Tier Two words as you were saying before, to write our own orientations and our own stories" (01:16:49 - 01:17:43). The students collected their morning tea and went outside for recess.

Analysis of Lesson

The following analysis of Zahra's lesson is presented in four sections. In the first section, *Analytical synopsis of lesson*, the preceding descriptive synopsis is complemented by three tables that illuminate the structure of Zahra's lesson and, as well, specify the categories of the KQ-E that apply to the various elements and moments of her teaching. The second section, *Realisation*, describes, in detail, *how* these categories of the KQ-E apply to, or were actualised through, Zahra's pedagogy. The third section, *Implications*, describes those aspects of Zahra's pedagogy that, having been identified through the application of the KQ-E, might be the focus of improvement. In the fourth and final section, *Summary*, the analysis is reviewed and salient findings pertaining to the research questions are presented.

Analytical Synopsis of Lesson

As per Table 22, Table 23 and Table 24 (below), Zahra's lesson consisted of three parts: (1) Spelling (00:00:00 - 00:31:32); (2) Pre-reading and discussion (00:32:04 - 00:58:25); and (3) Reading and discussion (01:04:00 - 01:18:45). Each part of the lesson was comprised of several elements and, sometimes, sub-elements (e.g., INTRODUCTION; MONITORING STUDENTS; SMALL-GROUP TEACHING; WHOLE-CLASS TEACHING) that were characterised by a particular type of teaching, or pedagogical context (e.g., directive, shared, guided/differentiated). Each of these elements (or sub-elements) was, itself, comprised of at least one, often several, moments of teaching (explanations, instructions, directions, questions, responses, etc.) – the units of analysis. The boundaries of each of the 94 moments of teaching that comprised Zahra's pedagogy were defined by the natural flow of the talk that occurred during the lesson. The content of each moment was the subject of analysis, examined for conditions that triggered the applicability of categories of the KQ-E. Table 22, Table 23 and Table 24 show which of the dimensions and categories of the KQ-E apply to 85 of these 94 moments of teaching. (To reduce the size of Table 23, nine moments of teaching, to which none of the dimensions/categories of the KQ-E apply, have been elided from the end of the sub-element VENN DIAGRAM TASK: MONITORS SMALL GROUPS and the element SHARING: ADDRESSES WHOLE CLASS.) For some moments, multiple dimensions and/or categories apply (e.g., in Table 22, the moment 'Explanation, reintroduces focus' that begins the element SMALL GROUP TEACHING is co-coded *Use of English terminology, Use of instructional materials* and *Responding to students' ideas*).

As per Table 22 (below), the KQ-E applies to Zahra's teaching 36 times during Part 1 (Spelling) of the lesson, with scope of applicability broadening during the element SMALL GROUP TEACHING at 00:08:55 - 00:28:06, when Zahra coordinated several question-answer exchanges with students. Across the preceding and following elements of the lesson, when

communication was unidirectional, two dimension s and two categories, *Foundation: Awareness of purpose* (*n* = 1) and *Connection: Pedagogical cohesion: Macro-level scaffolding* (*n* = 7) apply; during the element SMALL GROUP TEACHING (00:08:55 - 00:28:06), the scope of applicability expands to include:

- from Foundation, *Awareness of purpose* (*n* = 7), *Use of English terminology* (*n* = 6; 5 actual, 1 opportune) and *Adherence to textbook* (*n* = 1)
- from Transformation, *Use of instructional materials* (*n* = 1) and *Choice of examples* (*n* = 1)
- from Connection, *Pedagogical cohesion: Macro-level scaffolding* (*n* = 1) and *Pedagogical cohesion: Micro-level scaffolding (point-of-need)* (*n* = 6)
- from Contingency, *Responding to students' ideas* (*n* = 4)

Table 22

Structure of Zahra's lesson (Part 1: Spelling): Elements, pedagogical contexts, moments of teaching and applicable dimensions and categories of the KQ-E

Part of lesson	Element	Pedagogical context	Moment of teaching (unit of analysis)	Applicable dimension(s) and category(ies) from the KQ-E			
				Foun	Tran	Conn	Cont
Part 1: Spelling (00:00:00 - 00:31:32)	Introduction, specifies tasks (00:00:00 - 00:04:34)	Directive Teacher organises/manages students	Instructional monologue: Pre-amble, introduces focus	AoP			
			Instructional monologue: Directs students			PC:Mac	
			Instructional monologue: Directs students			PC:Mac	
			Instructional monologue: Directs students			PC:Mac	
			Instructional monologue: Directs students			PC:Mac	
			Instructional monologue: Directs students			PC:Mac	
	Monitors class (00:05:46 - 00:06:06)	Directive	Questions, directs two students			PC:Mac	
	Small-group teaching (00:06:08 - 00:07:56)	Directive	Directs students	None applicable			
			Directs students, recalls prior learning			PC:Mac	
	Monitors class (00:08:01 - 00:08:32)	Directive	Questions, directs students	None applicable			
	Small-group teaching (Other groups complete spelling activities without teacher support) (00:08:55 - 00:28:06)	Guided, differentiated Teacher supports a group of students to learn/practise a particular skill, or develop a particular understanding (Other groups: Collaborative) (Students work in small groups with minimal teacher input)	Explanation, reintroduces focus	UoET	AtT	UoIM		RtSI
			Questions students	UoET				RtSI
			Question-answer exchange	AoP				RtSI
			Question-answer exchange	AoP				
			Question-answer exchange	UoET(Opp)				RtSI
			Directs, reminds students	AoP, UoET				
			Directs, reminds students					
			Directs students	UoET				
			Instructs, supports a student	UoET				
			Discusses orthographic pattern: Directs students	AoP			PC:Mic(PoN)	
			Discusses orthographic pattern: Question-answer exchange			CoE	PC:Mic(PoN)	
			Discusses orthographic pattern: Question-answer exchange				PC:Mic(PoN)	
			Discusses orthographic pattern: Directs students, explanation	AoP			PC:Mic(PoN)	
			Discusses orthographic pattern: Question-answer exchange	AoP			PC:Mic(PoN)	
			Question-answer exchange, explanation	AoP			PC:Mic(PoN)	
			Directs students	None applicable				
			Makes request of students				PC:Mac	
			Directs students	None applicable				

	Monitors class (00:28:26 - 00:28:38)	Directive	Addresses class	None applicable			
	Monitors students (00:30:20 – 00:31:32)	Directive	Question-answer exchange			PC:Mac	

A similar pattern of applicability is apparent in Part 2 of the lesson (Pre-reading and discussion; see Table 23, below), wherein the KQ-E applies 54 times. During the element PREDICTION TASK (00:34:25 - 00:38:49) and sub-elements SILHOUETTES TASK: ADDRESSES WHOLE CLASS (00:41:50 - 00:44:17) and VENN DIAGRAM TASK: MONITORS SMALL GROUPS (00:44:17 - 00:58:26), when Zahra was, again, coordinating a string of question-answer exchanges with students, more of the categories of the KQ-E apply to her pedagogy. Across the preceding and following elements, two dimensions and six categories apply: from Foundation, *Awareness of purpose* (*n* = 3), *Use of English terminology* (*n* = 1) and *Choice of text* (*n* = 1); from Connection, *Pedagogical cohesion: Macro-level scaffolding* (*n* = 1), *Pedagogical cohesion: Micro-level scaffolding* (*n* = 1) and *External connectivity: Text-to-text connection* (*n* = 1). Across the element PREDICTION TASK (00:34:25 - 00:38:49) and the sub-elements SILHOUETTES TASK: ADDRESSES WHOLE CLASS (00:41:50 - 00:44:17) and VENN DIAGRAM TASK: MONITORS SMALL GROUPS (00:44:17 - 00:58:26), three dimensions and seven categories apply:

- from Foundation, *Theoretical underpinning of pedagogy* (*n* = 2), *Awareness of purpose* (*n* = 4) and *Use of English terminology* (*n* = 2)
- from Transformation, *Teacher demonstration* (*n* = 1) and *Use of instructional materials* (*n* = 3)
- from Connection, *Pedagogical cohesion: Micro-level scaffolding* (*n* = 24; 4 task-level, 20 point-of-need) and *External connectivity: Text-to-world connection* (*n* = 15)

Table 23

Structure of Zahra's lesson (Part 2: Pre-reading): Elements and sub-elements, pedagogical contexts, moments of teaching and applicable dimensions and categories of the KQ-E

Part of lesson	Element, sub-element	Pedagogical context	Moment of teaching (unit of analysis)	Applicable dimension(s) and category(ies) of the KQ-E			
				Foun	Tran	Conn	Cont
Part 2: Pre-reading and discussion (00:32:04 - 00:58:25)	Introduction, context for learning (00:32:04 - 00:34:17)	Directive Teacher organises/manages students	Question-answer exchange	AoP		EC:TtTC	
			Question-answer exchange	AoP			
			Explanation	AoP, UoET, CoT		PC:Mac	
	Prediction task[1] (00:34:25 - 00:38:49)	Shared Teacher coordinates student input	Directs students	TUoP, AoP, UoET		PC:Mic(PoN)	
			Talks to a student, question-answer exchange	TUoP, AoP		PC:Mic(PoN)	
			Sharing and discussion: Addresses class	None applicable			
			Sharing and discussion: Question-answer exchange			PC:Mic(PoN)	
			Sharing and discussion: Question-answer exchange			PC:Mic(PoN)	
			Sharing and discussion: Question-answer exchange			PC:Mic(PoN)	
			Sharing and discussion: Question-answer exchange			PC:Mic(PoN), EC:TtWC	
			Sharing and discussion: Question-answer exchange	AoP, UoET		PC:Mic(PoN), EC:TtWC	
			Sharing and discussion: Question-answer exchange			PC:Mic(PoN), EC:TtWC	
	Categorisation task[1] (00:38:51 - 00:58:26) — Silhouettes task[1]: Addresses whole class	Directive	Pre-amble, introduction			EC:TtWC	
			Explanation, organisation	AoP	TD / UoIM[2]	PC:Mic(PoN)	
		Shared	Discussion, demonstration (co-completion of task): Explanation			EC:TtWC	
			Discussion, demonstration (co-completion of task): Question-answer exchange			EC:TtWC	
			Discussion, demonstration (co-completion of task): Question-answer exchange			EC:TtWC	
			Discussion, demonstration (co-completion of task): Question-answer exchange			EC:TtWC	
			Discussion, demonstration (co-completion of task): Question-answer exchange			PC:Mic(PoN), EC:TtWC	
			Discussion, demonstration (co-completion of task): Question-answer exchange			PC:Mic(PoN), EC:TtWC	
			Discussion, demonstration (co-completion of task): Question-answer exchange			EC:TtWC	
			Discussion, demonstration (co-completion of task): Question-answer exchange			PC:Mic(PoN), EC:TtWC	
	Venn diagram task[1]: Monitors small groups	Collaborative Students work in small groups with minimal teacher input	Reiterates task, directs students		UoIM[3]		
			Addresses class			PC:Mic(PoN)	
			Addresses a group	None applicable			
			Directs a student	None applicable			
			Addresses a group		UoIM[4]	PC:Mic(PoN)	
			Addresses a group			PC:Mic(PoN)	
			Addresses, questions, supports a group			PC:Mic(PoN), EC:TtWC	
			Addresses, questions, supports a group			PC:Mic(PoN)	
			Addresses, questions, supports a group			PC:Mic(PoN)	
			Addresses, questions, supports a group			PC:Mic(PoN), EC:TtWC	
			Addresses, questions a group			PC:Mic(PoN)	
			Addresses, questions a group	None applicable			

				Addresses, questions, supports a group			EC:TtWC	
		Sharing: Addresses whole class	Directive	Sharing	Directs students, explanation	None applicable		
					Spokespeople share	None applicable		

[1] A task-level micro-level scaffold, discussed in the section ***Pedagogical cohesion: Micro-level scaffolding – Part 2 of lesson (Pre-reading and discussion)***, below.
[2] Silhouettes.
[3] Venn diagram.
[4] A photograph of a peacock and a photograph of a swan.

A pattern of applicability is less obvious in Part 3 of the lesson (Reading and discussion; see Table 24, below), where the KQ-E applies 22 times. Applicability is clustered during the element INTRODUCTION, CONTEXT FOR READING (01:04:00 - 01:06:37), with two dimensions and five categories applying during this two-and-a-half minute period:

- from Foundation, *Awareness of purpose* (*n* = 3) and *Use of English terminology* (*n* = 2)
- from Connection, *Pedagogical cohesion: Macro-level scaffolding* (*n* = 2); *Pedagogical cohesion: Micro-level scaffolding* (*n* = 1) and *External connectivity: Text-to-text connection* (*n* = 1)

Across the remainder of Part 3 of the lesson (approximately 12 minutes), four dimensions and five categories apply to Zahra's teaching:

- from Foundation, *Theoretical underpinning of pedagogy* (*n* = 2) and *Awareness of purpose* (*n* = 4)
- from Transformation, *Use of instructional procedures* (*n* = 1)
- from Connection, *Pedagogical cohesion: Micro-level scaffolding* (*n* = 1)
- from Contingency, *Responding to students' ideas* (*n* = 4).

Table 24

Structure of Zahra's lesson (Part 3: Reading and discussion): Elements and sub-elements, pedagogical contexts, moments of teaching and applicable dimensions and categories of the KQ-E

Part of lesson	Element, sub-element		Pedagogical context	Moment of teaching (unit of analysis)		Applicable dimension(s) and category(ies) of the KQ-E			
						Foun	Tran	Conn	Cont
Part 3: Reading and discussion (01:04:00 - 01:18:45)	Introduction, context for reading (01:04:00 - 01:06:37)		Directive Teacher organises/manages students	Question-answer exchange		AoP, UoET		PC:Mac, PC:Mic(PoN)	
				Explanation		AoP		EC:TtTC	
				Explanation		AoP, UoET		PC:Mac	
				Directs students		None applicable			
	Reads to class (01:07:04 - 01:12:59)		Modelled Teacher demonstrates a particular skill or process, no student input	Question-answer exchange		None applicable			
				Reads to class			UoIP		
	Sharing and discussion (01:14:34 - 01:18:45)	Turn and talk	Collaborative Students work in small groups with minimal teacher input	Directs students		TUoP			
				Talks to a student, question-answer exchange		TUoP		PC:Mic(PoN)	
		Whole-class sharing	Shared Teacher coordinates student input	Directs students		None applicable			
				Question-answer exchange					RtSI
				Responds to student's comment					RtSI
				Question-answer exchange					RtSI
				Question-answer exchange					RtSI
				Explanation	Explanation	AoP			
				Question-answer exchange		AoP			
				Explanation		AoP			
		Reads to class	Directive	Reads to class		None applicable			
				Explanation				PC:Mac	

As per Table 22, Table 23 and Table 24, applicability of the KQ-E is most concentrated during those elements of the lesson that involved moments of teaching wherein Zahra dialogued with students. Alexander (2001) contended that constructive classroom talk has many functions, including as the medium through which students can be engaged with

new information and ideas, and their learning scaffolded. He contended, also, that teachers play a critical role in promoting and guiding talk to learn. Webster, Beveridge and Reed (1996) have observed that "teaching and learning is a social enterprise which draws on the immediate resources of the participants" (p. 42). Resources that were brought to the periods of dialogue that Zahra initiated and coordinated appear to be captured by the KQ-E. The relevance of the category *Awareness of purpose,* for instance, suggests the dialogue was purposeful, facilitated or shaped by a predetermined pedagogical imperative, or educational goal (Alexander, 2008). As well, the relevance of the category *External connectivity: Text-to-world connection* indicates that Zahra and the students accessed and expressed their knowledge of the world. Moreover, the relevance of the category *Pedagogical cohesion: Micro-level scaffolding (point of need)* suggests the dialogue was cumulative, with Zahra and the students "build[ing] on their own and each other's ideas, and chain[ing] them together into coherent lines of thinking" (Alexander, 2008, p. 28), or co-constructing meaning.

For the teacher, leveraging the pedagogical affordances of dialogue is an intellectually demanding activity (Brown & Wragg, 1993; Derewianka, 2018), involving cognitive agility or the capacity to 'think on one's feet' or "reflect-in-action" (Rowland et al., 2009, p. 2) to rapidly formulate, and then articulate, cogent responses to student input. Within a stretch of dialogue, the content of many of a teacher's responses depends, or is *contingent,* on the input received from students: "[t]he oral mode is agile and dynamic, allowing participants to *explore and develop understandings*" (Derewianka, 2018, p. 9). Informing these responses, however, is a pedagogical imperative that directs talk and learning toward a certain, pre-determined, end. Dialogue, Alexander (2008) maintained, is purposeful. Thus, many of the (contingent) responses tendered by Zahra during periods of dialogue with students were *not* coded *Responding to students' ideas* or *Teacher insight* (both from Contingency) because the pedagogy she demonstrated was qualitatively different to the pedagogy assumed by Rowland et al.'s (2005, 2009) definitions of these categories. Rather, these moments of (albeit

contingent) teaching are coded *Pedagogical cohesion: Micro-level scaffolding (point of need)* because the pedagogy demonstrated by Zahra reflected/reifies the distinguishing features of scaffolding identified and described in research literature (e.g., Maybin, Mercer & Steirer, 1992; Mercer, 1994; van Lier, 1996; Webster, Beveridge & Reed, 1996), including, as the relevance of the category *Awareness of purpose* indicates, "[s]electing particular themes…[and] elicit[ing] responses from pupils which draw them along a particular line of reasoning" (Mercer, 1994, p. 99).

Teaching that involves dialogue – or initiating and coordinating bi- or multi-directional, and contingent, exchanges – is more involved than teaching that consists of unidirectional communication, or instructional monologues (Brown & Wragg, 1993; Sharpe, 2001), and this complexity appears to be reflected in the higher concentration of KQ-E categories that apply when Zahra is 'doing' teaching of this kind. Moreover, van Lier (1996) suggested that "even though it does not show up in lesson plans or syllabuses, this local or interactional scaffolding may well be the driving force behind good pedagogy, the hallmark of a good teacher" (p. 199; emphasis added).

Realisation

This section of the analysis is related to Research Question 2: *What do the categories of the KQ, and any new categories, 'look like' in the context of subject English? What do they capture?* It consists, firstly, of a profile of the dimensions and categories of the KQ-E that apply to the pedagogy demonstrated by Zahra and, then, of detailed descriptions/explanations of *how* the applicable categories of the KQ-E relate to, or were actualised through, her pedagogy, beginning with accounts of the applicability/realisation of the categories from Foundation, followed by similar accounts for the categories from the dimensions Transformation, Connection and Contingency. Lists and tables are regularly used to organise and improve the readability of the material. The accounts of the

applicability/realisation of the categories include corroborating data from post-lesson interviews and, also, references to scholarly literature.

Analysis of Zahra's lesson revealed the following KQ-E profile:

Table 25

Frequency count of KQ-E categories for Zahra's Grade 4/5 English lesson

| Dimensions and categories of the KQ-E | | |

Represented graphically, the category frequencies are more discernible:

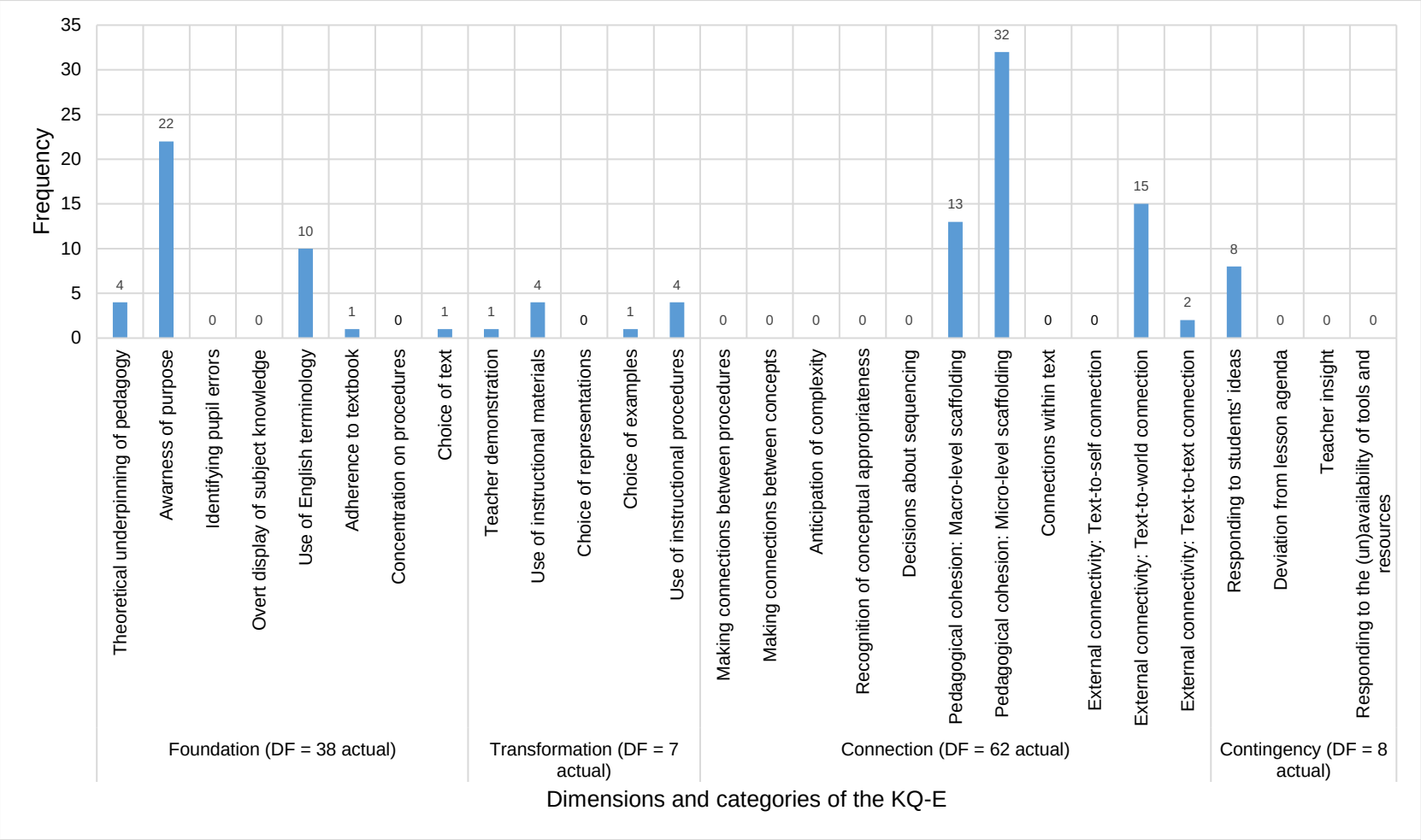


Figure 4. Frequency of KQ-E categories (actual instances only, *n* = 115) for Zahra's Grade 4/5 English lesson.

As per Table 25 and Figure 4, the KQ-E applied to Zahra's teaching 116 (115 actual, 1 opportune) times, with categories from the Foundation dimension applying 39 (38 actual, 1 opportune) times; categories from Transformation 7 times; categories from Connection 62 times; and one category from Contingency 8 times. *Awareness of purpose*; *Pedagogical cohesion: Macro-level scaffolding; Pedagogical cohesion: Micro-level scaffolding* and *External connectivity: Text-to-world connection* are the categories that most apply to Zahra's teaching. Over half the categories of the KQ-E are not applicable. Across the categories *Pedagogical cohesion: Micro-level scaffolding*; *External connectivity: Text-to-world connection*; *External connectivity: Text-to-text connection*; and *Responding to students' ideas*, students' literal- and appreciative-level comprehension of *Feathers and Fools*, and text form knowledge, is addressed. As per Table 25, one moment of Zahra's teaching was opportunely coded *Use of English terminology* (discussed later). How the categories of the KQ-E apply to, or were actualised through, Zahra's teaching is the subject of the next four sections of this chapter.

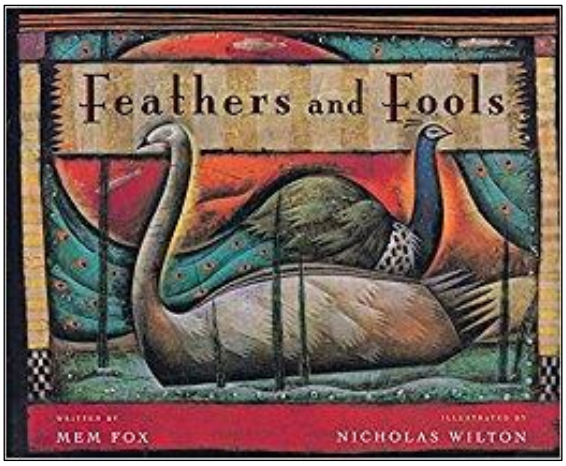
Foundation: Categories Relevant to Zahra's Teaching

Analysis indicates that Foundation has a Dimension Frequency $n = 39$ (38 actual, 1 opportune). The categories from the dimension that apply to Zahra's pedagogy are *Theoretical underpinning of pedagogy*; *Awareness of purpose*; *Use of English terminology*; *Adherence to textbook*; and *Choice of text*. How each of these categories applies to Zahra's pedagogy is the focus of the following sections of the chapter. Explanations of the applicability of the categories are made with reference to material from the lesson, and content from post-lesson interviews. The section concludes with a summary of the applicability of the categories from the dimension to Zahra's teaching.

Theoretical underpinning of pedagogy. *Theoretical underpinning of pedagogy* has a Category Frequency $n = 4$. Two of the moments of teaching coded *Theoretical underpinning of pedagogy* occurred early in Part 2 of the lesson (Pre-reading and discussion), while the other two occurred during the middle of Part 3 of the lesson (Reading and discussion). Each of the four moments concerns the process of activating, building, refining and applying pertinent fields of knowledge, and reflect, moreover, the application of ideas consistent with social-constructivist/Vygotskian (1962, 1978) orientations to teaching-learning. Vygotsky (1978) argued that learning is a social process, occurring in the interactions between individuals. Knowledge, he argued, is constructed in and through communicative processes, particularly talk. Reflecting this Vygotskian orientation to learning, Zahra directed the students to "turn and talk to someone" (00:34:25 - 00:34:55) about the content of *Feathers and Fools* – that is, to co-construct meaning via social interaction:

- 00:34:25 - 00:34:55: "I want you to have a think and predict: What do you think this book might be about? … What are they getting across? You turn and talk to someone about that."
- 00:35:10 - 00:36:27: "STUDENT, we're looking at *Feathers and Fools* and we're asking you, before I even read it: What is it about?"
- 01:13:22 - 01:13:26: "Turn and talk to the people around you about what you've noticed about the story."
- 01:13:29 - 01:14:33: "What did you see? Come and talk to me."

The first two of these moments involved students making predictions about the 'big ideas' or themes explored in the story – "What do you think this book might be about? … What's…the author's message trying to be?" – based on its title, *Feathers and Fools*, and the image on the front cover of the book:



The latter two moments involved students articulating their developing essential-level comprehension of the text. As the Department of Education (2016) noted, "[o]ral interaction allows students to talk their way into meaning…[unrestricted] by the accuracy demands of written language. …. [However] [p]roductive talk does not just happen – it needs to be…planned" (p. 19). As such, Zahra orchestrated these exchanges according to the purpose of this part of the lesson (to develop students' essential-level comprehension of *Feathers and Fools*, discussed in the section **Awareness of purpose**, below).

Each of the turn and talk episodes was followed by whole-class sharing, reflecting, also, the social-constructivist/Vygotskian (1962, 1978) orientation to learning that appears to provide a theoretical basis for Zahra's pedagogy. Zahra selected a student (or students) to share the content of his/her (their) discussion(s) with the class and acknowledged or praised the ideas that were shared.

During post-lesson interview, Zahra described the value of turn-and-talk in terms of students' vocabulary learning and willingness to contribute to whole-class discussions:

> [I]t's…a chance for them to share ideas and because I have lots of students with lower entry and different levels of learning, it gives those students who are finding that tricky and that aren't really at the level of the vocab word that we're using, a chance to talk to those who do understand it – 'give one, get

> one'. And it is amazing to see some of those lower ones start to share. They'll actually put their hand up and speak and get praise and, therefore, get confidence. It just takes away from those same children always giving me answers. (Zahra, post-lesson interview, 20/10/2016, 00:04:41 - 00:05:18)

Zahra's use of the turn-and-talk strategy reflects the Vygotskian (1962, 1978) notion of learning that appears to underpin her pedagogy: within the context of each episode of turn-and-talk, students co-constructed meaning; that is, they "talk[ed] their way into meaning: [they were able] to think aloud; to formulate ideas; to set up and evaluate hypotheses; to clarify ideas; and to reach tentative decisions in a context that [was] not restricted by the accuracy demands of written language" (Department of Education, 2016, p. 19). Moreover, a student's language learning may have been supported – within the scope of his/her zone of proximal development – via the interaction with a more knowledgeable and articulate peer. As Hammond and Gibbons (2001) have noted, "learning will occur when students are working within the ZPD and when [more capable peers]…are able to assist [other] students to extend their current understandings and knowledge" (p. 10).

Awareness of purpose. *Awareness of purpose* has a Category Frequency $n = 22$, the highest of the category frequency. The category applies to those episodes of the lesson wherein Zahra stated, explicitly, the purpose of a particular task *or* the purpose of the larger teaching-learning sequence in which the current lesson was situated. The first of these overt references to purpose occurred during the preface to Part 1 of the lesson, at 00:00:00 - 00:02:10, when Zahra told the students that "we are going to go over our spelling. We haven't done our spelling for a little bit because we've had [pre-service teacher] leading us, so we'll need to catch up. We are on Day 4." Zahra then reminded the students in spelling groups 1, 2, 4 and 5 of the tasks they needed to complete, while the students in Group 3 stayed on the floor.

The second overt reference to purpose occurred at 00:12:33 - 00:13:25, when Zahra explained to Group 3 the rationale for, and focus of, the spelling task the students were completing: "I've noticed in your spelling that lots of people, when we're writing words that end in this *y*, aren't putting the right ending on them. Or we're leaving the *y* there. So today, what we're looking at is changing that *y*." She then stated that "there's a couple of rules that I'm going to teach you today to do with this *y*" (00:13:33 - 00:13:48) and clarified the precise focus of the learning: "So what I'm looking for today…is I want you to know that when you have a *y* at the end of the word *you need to have a look at the letter before it* [emphasis added]" (00:15:26 - 00:16:16). During the remaining part of this period of small group teaching, from 00:21:46 - 00:28:06, Zahra reiterated the purpose of the teaching/learning a further four times:

- at 00:21:46 - 00:25:50, re-directed students' attention to the focus of the teaching/learning: "I want you to…have a look down the base word list and have a look at those ones that end in a *y* and have a consonant in front of it, so that doesn't end in *a*, *e*, *i*, *o*, *u*. Have a look at what happens when you add -*s*, when you add -*ing* and when you add -*ed*."
- at 00:23:19 - 00:24:47, reiterated the purpose of the teaching/learning: "I want you to be aware that some of these words still have that *y* on them when adding -*ing*. But when we're adding -*s* or -*ed*, you change that *y* to the *i*."
- at 00:24:50 - 00:25:50, directed students' attention to the focus of the teaching/learning: "I'll ask the question again: Why are we changing the *y* to add -*ies* or -*ied*? … Because it's a wanna-be. So you need to know all these different rules with these words. … So even though…the…word lists are quite easy to do, they're actually quite difficult to remember the spelling, *which is the whole purpose why we're looking at these words today* [emphasis added]."

- at 00:25:51 - 00:26:29, during a question-answer exchange with a student who articulated the spelling rules[14], confirmed, indirectly, that learning these rules was the purpose of the activity: "Right, so there you go, so there's that rule."

Two purposes – often, and variously, expressed by Zahra – differentially informed Part 2/Part 3 of the lesson: one purpose was specific to, and directly informed, the content of the lesson; the other was broader, defining the emphasis of the larger program in which the current lesson was situated. The connection between the specific, lesson-level intention and the broader, unit-level intention was largely tacit: Zahra, in the course of addressing the class during Part 2/Part 3 of the lesson, implied, rather than articulated, a link.

The broader, unit-level purpose was the first that Zahra addressed. As per the WALT[15] statements she had written on the easel (but to which she never directed students' attention), it concerned aspects of narrative writing: *We are learning to:*

- *Write an effective orientation*
- *Write effective dialogue that contains speech and actions*

To achieve this, Zahra intended to use books written by Mem Fox to demonstrate effective narrative writing (particularly, it seems, effective choices regarding vocabulary): "I want to show you how she writes because *the language is quite technical, quite detailed*

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[14] When the word ends with a consonant + *y*, change the *y* to an *i* and add *-ed/-es*. When the word ends with a vowel + *y*, leave the *y* and add *-ed/-s*.

[15] Developed by Clarke (2001), an acronymic method of presenting learning intentions to students. A WALT ('We are learning to…') statement, which identifies the goal of the lesson, is complemented, often, by WILF ('What I'm [i.e., the teacher] looking for…') and TIB ('This is because…') statements (see, for example, the descriptive synopses of Christopher's lessons). A WILF statement explicates the criteria by which students' work shall be judged; a TIB statement provides a rationale for the learning. WALT, WILF and TIB statements (or variations thereof) are used in many Australian classrooms.

[emphasis added]" (00:33:03 - 00:33:20). She introduced this unit-level purpose by providing a rationale for it:

> I noticed that when we did our NAPLANs and when we're have a look at writing stories, a lot of us – we're missing gaps, we had some gaps in our writing, so we're going to start looking at the orientation of our writing and we're also going to have a look at how we write using speech marks appropriately and effectively and how that speech is not just a conversation but how it promotes our actions; how it states how we move and how the character moves and things that occur in the text. (00:33:21 - 00:34:22)

Zahra reiterated this rationale in post-lesson interview when discussing her choice of text: "looking at how Mem Fox uses those words to write her books and how we can then use it, obviously, to bump us up a bit. Hopefully, to support our NAPLAN, should it be narrative again" (Zahra, post-lesson interview, 00:05:52 - 00:06:03).

Zahra returned to this larger purpose in the latter stages of the lesson, after reading *Feathers and Fools* to the class. At 01:04:37 - 01:05:22, she said to the students that she wanted them "to be aware that we speak for different purposes and we write for different purposes. Writing a letter to your best friend or an email or text to your best friend is very different to writing a book." This very broad purpose – which articulates with the first of the four aims of the *Australian Curriculum: English*: "[S]tudents learn to…speak [and] write…increasingly complex and sophisticated spoken [and] written…texts across a growing range of contexts with accuracy, fluency and purpose" (ACARA, 2016a, p. 4) – was then contextualised: Zahra linked it to the focus of the teaching-learning sequence (i.e., narrative writing; crafting an effective orientation and writing effective dialogue) and, more specifically, to "some of the language [of the] orientation that's in [*Feathers and Fools*]" (01:05:28 - 01:06:15):

- "So, think about the language that Mem Fox used. Some of the words that the peacock and the swans were saying. Do we use that in our everyday language out in the playground?" (01:16:21 - 01:16:49)
- "So we are going to study and unpack this book. So we will become familiar with the language and hopefully start to use some technical language…to write our orientations and our own stories" (01:16:49 - 01:17:43)
- "We will have a look at that sentence in a little bit more detail…and why she has chosen the words that she's chosen" (01:17:58 - 01:18:45)

Another, more specific, purpose directly informed the content of Part 2/Part 3 of Zahra's lesson – namely, to begin to develop students' essential-level comprehension of *Feathers and Fools*. Unlike the unit-level purpose, this purpose was not written as a WALT statement on the easel; rather, it emerged (a) during the talk that circumscribed the prediction task (00:34:25 - 00:38:49); (b) in Zahra's introduction to the categorisation task (00:38:51 - 00:58:26); and (c) in the question-answer exchanges and explanations that preceded her reading aloud of *Feathers and Fools* (01:04:00 - 01:06:37):

- "What do you think this book might be about? … Start thinking a little bit more creatively and start to think to yourself: What's there in the pictures, but *what is the author's message trying to be*? *What are they getting across* [emphasis added]?" (00:34:25 - 00:38:49)
- "[W]e're looking at *Feathers and Fools* and we're asking you, before I even read it: What is it about? … Mmm, let's turn it into a little bit more in depth. … What is *fools*? (00:35:10 - 00:36:27)
- "Let's have some more predictions about what the book's about" (00:37:43 - 00:38:27)

- "What is the same about all of these groups of birds? And what's different about them?" (00:40:24 - 00:41:47)
- "What was the purpose for getting you to look at the differences and similarities between peacocks and swans? … Yeah, I need to know your prior knowledge and that's really important when…*you're going to be delving into what the author's trying to say and their meaning* [emphasis added]" (01:04:00 - 01:06:37)

In *Feathers and Fools*, "two flocks of birds [begin] to fear each other because of their differences. The fear [grows], and soon the birds [become] enemies, hoarding great quantities of weapons to protect themselves – until panic [strikes] and the chance for peace [seems] lost forever" (Fox, 2017a, n.p.). Fox stated that "my writing of this book…is a tiny, fierce protest against conflict of any kind." She stated, also, that "hatred [gets] us nowhere…and…war solves nothing" (Fox, 2017b, n.p.). Steering the students' attention toward this fundamental idea – "what is the author's message trying to be?" – and how Fox expressed it – "what is *fools*?" – was the purpose of Part2/Part3 of Zahra's lesson.

Although not always expressed plainly for the students, three pre-determined objectives shaped the content, structure and delivery of Zahra's lesson:

1. responding to errors observed in students' writing, teach a particular spelling rule to the students in Group 3;
2. responding to gaps observed in students' narrative writing, introduce the focus/purpose of a new teaching-learning sequence; and
3. begin to develop students' essential-level comprehension of *Feathers and Fools*, the text on which the new teaching-learning sequence would be based.

A clear sense of purpose informed Zahra's planning and delivery of Part 2/Part 3 of the lesson, evidenced, in particular, by the inclusion of the categorisation task, which

harnessed and marshalled the fields of knowledge upon which students' comprehension of *Feathers and Fools* would, in time, be developed: "And as we go through this book we will start having a look at why Mem Fox chose these two animals and the purpose and the message behind what she's doing" (01:16:09 - 01:16:21).

Use of English terminology. *Use of English terminology* has a Category Frequency *n* = 11 (10 actual, 1 opportune). During each part of the lesson, Zahra used topic-specific vocabulary, as follows:

- Part 1 (Spelling), terms associated with morphology, grammatical tense and phonetics: *base word(s), past, present, future, consonant(s), vowel(s)*
- Part 2 (Pre-reading and discussion), terms associated with text structure, punctuation and the reading process: *orientation, speech marks, predict(ion)*
- Part 3 (Reading and discussion), terms associated with comprehension and grammar: *inferring, simple sentence, compound sentence, complex sentence*

In the course of working with Group 3 in Part 1 of the lesson, Zahra checked students' understandings of the meanings of *base word, vowel(s)* and *consonant(s),* as follows:

- "What does it mean by *base word,* STUDENT?" [STUDENT: "The original word."] "The 'original word', that's a good way of saying it" (00:08:55 - 00:11:27).
- "So STUDENT…can you tell me what the vowels are, please." [STUDENT: "*E, a, i, o, u*."] "Yep: *a, e, i, o, u*. … Let's try and do them in order" (00:14:04 - 00:14:32)
- "What are the other…letters?" [STUDENT: "Continents."] "Not 'continents', *constonants* [*sic*] [*recte* consonants]" (00:14:04 - 00:14:32). (The mispronunciation was coded opportunely. Zahra used the term *consonant(s)* three more times, each time pronouncing it correctly.)

During Part 2 and Part 3 of the lesson, Zahra did not deliberately check students' understandings of any of the technical terminology she used; she did, however, indicate to the students that *simple sentence, compound sentence, complex sentence* were terms familiar to them – "going on our knowledge of a complex sentence, a compound sentence, a simple sentence" while motioning toward posters on the wall (01:05:28 - 01:06:15) – and affirmed a student's unsolicited explanation of *orientation*: [STUDENT: "At the start, it's where it is and when it is."] "Excellent, it is where it is and when it is…" (01:17:58 - 01:18:45). In post-lesson interview, Zahra acknowledged that vocabulary instruction is "a whole school approach. That we're beginning through TEACHER [the school's Raising the Bar Literacy Coach], and she gives us the 'word of the week or fortnight and this is how to do it' and it's however we teach it." (Zahra, post-lesson interview, 20/10/2016, 00:06:23 - 00:06:34). During each lesson, Zahra "[tries to] throw some words in…and then explain it back" (Zahra, post-lesson interview, 00:10:34 - 00:10:40).

Adherence to textbook. *Adherence to textbook* has a Category Frequency $n = 1$ and, as per Table 22, applies to a period of teaching that occurred in Part 1 of the lesson. During the element SMALL-GROUP TEACHING, from 00:08:55 - 00:28:06, Zahra regularly consulted a lesson plan from a book from the *Words Their Way* collection of resources (published by Pearson; see https://pearson.com.au). The book, open to the lesson plan, was on the floor beside her. While the students completed a task (e.g., sorted their words), Zahra silently read the lesson plan to herself to prepare for the upcoming steps of the teaching process. At 00:25:51 - 00:26:29, she read directly from the lesson plan: "They both end in the *y,* one ends in the *-ay*. What happens when you…add the *s*? What happens to that word?"

From 00:08:55 - 00:28:06, Zahra's teaching was circumscribed by the lesson plan from the *Words Their Way* book. She spoke positively about *Words Their Way* – "I'm loving it" (Zahra, post-lesson interview, 00:02:05); however, her adherence to the stipulated lesson

plan appeared to curtail her sensitivity toward, and capacity to leverage, opportunities for point-of-need scaffolding presented by student input (see *Implications*). As Rowland et al. (2009) noted, teachers should "make use of [their] own resources and teaching strategies rather than [adhere] to textbook…plans" (p. 35); similarly, Murdoch (2002) asserted that "[n]o prepacked program can ever match the value of the planning done by a teacher…*who has a particular group of students in mind* [emphasis added]" (p. iii). Other categories of pedagogical activity (e.g., *Awareness of purpose*, *Choice of text*) demonstrated Zahra's sensitivity toward the needs of her students.

Choice of text. *Choice of a text* has a Category Frequency $n = 1$ and applies to Zahra's selection and use of the picture book *Feathers and Fools* by Mem Fox (author) and Nicholas Wilton (illustrator). Zahra provided the students with a rationale for this choice: mentioning that "when we did our NAPLANs and when we're having a look at writing stories, a lot of us…we had some gaps in our writing" (00:33:21 - 00:34:22), she indicated that Fox's writing would provide a model by which students could develop the quality of their own narrative writing: "I want to show you *how* she writes because the language is quite technical, quite detailed" (00:33:03 - 00:33:20). Zahra wanted her students to "start using the language that Mem Fox uses to help describe her story and help set up the scene" (00:33:21 - 00:34:22), which included "looking at the sentences that she has, going on our knowledge of a complex sentence, a compound sentence, a simple sentence: Mem Fox uses a lot of compound and complex sentences in this story, even though this story is aimed at young children" (01:05:28 - 01:06:15). Zahra reiterated this rationale in post-lesson interview: "And start looking at how Mem Fox uses those words to write her books and how we can then use it, obviously, to bump us up a bit. Hopefully, to support our NAPLAN, should it be narrative again" (Zahra, post-lesson interview, 00:05:52 - 00:06:03). She acknowledged, also, a second rationale that related to the humanistic potential of English. The essential

theme of *Feathers and Fools*, described previously, resonated with interpersonal issues that were surfacing among some of the students in the class, and Zahra intended to use the book as a vehicle for illuminating, exploring and resolving these issues:

> And it's also happening, at the moment, in the classroom. So, that's what I will lead…into the tension that's happening in the class at the moment, especially with some of the boys being very physical. We had a couple of instances yesterday so I thought this was a great idea to start the ball rolling. I thought I was going to just read the first part of the text and I thought, 'No, I probably need to just read the book as a book. Here it is.' And so, next time when we come together again, we'll unpack a little bit more and a little bit more…and start to look behind the theme and the meaning behind the book as they go through. (Zahra, post-lesson interview, 00:07:06 - 00:07:43)

Foundation: Summary

Five categories from Foundation applied to Zahra's pedagogy: *Theoretical underpinning of pedagogy*; *Awareness of purpose*; *Use of English terminology*; *Adherence to textbook*; and *Choice of text*. Table 26 reiterates, concisely, how those categories applied thereto.

Table 26

Summary of how five categories from Foundation applied to Zahra's pedagogy

Category	Frequency	Application to Zahra's pedagogy
Theoretical underpinning of pedagogy	4	Zahra's pedagogy reflected Vygotskian (1962, 1978) underpinnings: opportunities for students to turn and talk indicates a view of "learning [as]…a communicative process whereby knowledge is shared and understandings are [co-]constructed" (Hammond & Gibbons, 2001, p. 8).
Awareness of purpose	22	Three pre-determined objectives shaped the content, structure and delivery of the lesson: one objective informed the focus of the spelling task (Part 1); two objectives informed, differentially, Part 2/Part 3 of the lesson (Pre-reading and discussion; Reading and discussion). One of these two purposes was specific to, and directly informed, the content of the lesson; the other was broader, defining the emphasis of the larger program in which the lesson was situated.
Use of English terminology	11 (10 actual, 1 opportune)	Zahra and the students applied a shared metalanguage that was comprised of terminology related to phonetics, morphology and grammar (traditional and functional).
Adherence to textbook	1	Zahra's teaching was circumscribed by the lesson plan from the *Words Their Way* resource.
Choice of text	1	Zahra selected *Feathers and Fools* for two reasons: (1) because Fox's writing would serve as a model by which the students could develop the quality of their own narrative writing; (2) for its humanistic potential, as a vehicle for illuminating, exploring and resolving the interpersonal conflict that was beginning to surface among some of the students in the class.

Hereunder, the categories from Transformation that apply to Zahra's pedagogy are addressed.

Transformation: Categories Relevant to Zahra's Teaching

Analysis indicates that Transformation has a Dimension Frequency $n = 7$. The categories from the dimension that apply to Zahra's pedagogy are *Teacher demonstration*; *Use of instructional materials*; *Choice of examples*; and *Use of instructional procedures*. How each of these categories applies to her pedagogy is the focus of the following sections of the chapter. As before, explanations of the applicability of the categories are made with

reference to material from the lesson, and content from post-lesson interviews. The section concludes with a summary.

Teacher demonstration. *Teacher demonstration* has a Category Frequency $n = 1$. The pedagogy to which this category pertains occurred during Part 2 of the lesson, when Zahra, from 00:41:50 - 00:44:17, demonstrated/co-completed the process of categorising several birds – emu, owl, sparrow, crow, chicken, duck, peacock and swan – according to their physical capabilities: strong, capable flyer (owl, sparrow, crow, swan) or weak/limited flying abilities (emu, chicken, duck, peacock). As per Table 23, this demonstration consisted of an explanation of the task – "Can we put them into groups?" (00:41:47 - 00:41:50) – followed by seven brief question-answer exchanges, each of which involved showing the class a silhouette of a bird, asking the students if that bird could fly – e.g., "STUDENT, can an owl fly?" (00:42:18 - 00:42:22) – and placing the bird/silhouette in the appropriate category. Two of the question-answer exchanges were slightly protracted: responding to uncertainty among the students about a bird's flying abilities, Zahra supported decision-making by referring to students' real-life experiences of those birds:

- "Let's think of the ducks that are at the Waverly Pond or the ducks that are at City Park. … But can they fly to my backyard in Trevallyn?" [STUDENTS: "No."] "Right, well I'm going to put them over here" (00:42:40 - 00:43:13)
- "Can a peacock fly?" [STUDENTS: "No."] … They can fly a certain height, but not distance. So they can fly because where do peacocks sleep?" [STUDENT: "In trees."] … In trees. So if you go walking through the Gorge towards evening, towards teatime, you might see them in a tree. That's about as far as a peacock can fly, hence why they're actually in and living in the Gorge" (00:43:31 - 00:44:17).

This three-minute demonstration of the categorisation of birds according to their flying abilities preceded a second, more focused and detailed, categorisation task that

involved small groups completing Venn diagrams of the similarities and differences between peacocks and swans. As per Zahra's explanation to the class, the purpose of the demonstration was to prepare the students for, or attune them to, this Venn diagram task by familiarising them with the concept of categories and the process of categorising:

> What I want you to do is spend the next couple of minutes having a look at these birds and seeing if you can find – so we're going to do a Venn diagram, the similarities and differences about these birds. Can you put them into two different categories? What do I mean by categories, STUDENT?" [STUDENT: "A category is kinda like something that's the same but, like, different at the same time."] Mmm-hmm, alright, yep. What else can we do with these birds? Can we put them into groups? See if we can do it [i.e., categorise the birds according to their flying abilities] before we actually start this [i.e., the Venn diagram task]. (00:40:24 - 00:41:47)

Use of instructional materials. *Use of instructional materials* has a Category Frequency $n = 4$, indicating that Zahra used four different teaching resources to mediate students' learning. All of these resources were physical, paper-based artefacts. The first was the commercially produced table of base words and derivatives that Zahra used with Group 3 in Part 1 of the lesson; the second, which Zahra had developed herself, was the collection of A4-sized silhouettes of birds; the third, also developed by Zahra, was the Venn diagram proforma; and the fourth was a colour photograph of a peacock and colour photograph of a swan, both of which Zahra had printed from the Internet and attached to the easel for student reference. The silhouettes, Venn diagram proforma and photographs were used during Part 2 of the lesson.

The table of base words and derivatives was from the *Words Their Way* spelling resource, which, in post-lesson interview, Zahra admitted to being "a bit sceptical [about] to

start with", but is now "loving it" (00:02:05 - 00:02:07). According to Zahra, *Words Their Way* is "a sounding strategy program. [The students] are assessed each term after a simple spelling test which is on the computer and then the computer finds their gaps, their holes and generates where they should be and what they should be working on, what lists and some pieces so I've grouped them according to that" (Zahra, post-lesson interview, 00:01:16 - 00:01:33). The *Words Their Way* resource informs the spelling program of all the Grade 3 to Grade 6 teachers at the school: "It's a school approach for the 3s to 6s" (Zahra, post-lesson interview, 00:02:07 - 00:02:10).

The table of words consisted of six base words (*cry*, *fry*, *play*, *spray*, *spy*, *stay*) and, for each of these base words, three derivatives formed by the addition of the suffixes *-ed*, *-ing* and *-s* (i.e., *cried*, *crying*, *cries*, etc.). The 24 words were not presented logically, but, rather, scattered randomly throughout the table. Zahra and the students read the table of words aloud before "cut[ting] them out and…do[ing] a word sort" (00:11:27 - 00:12:29), which involved presenting the words logically: "So I should see something like *play*, *plays*, *played*, *playing*" (00:17:03 - 00:17:35):

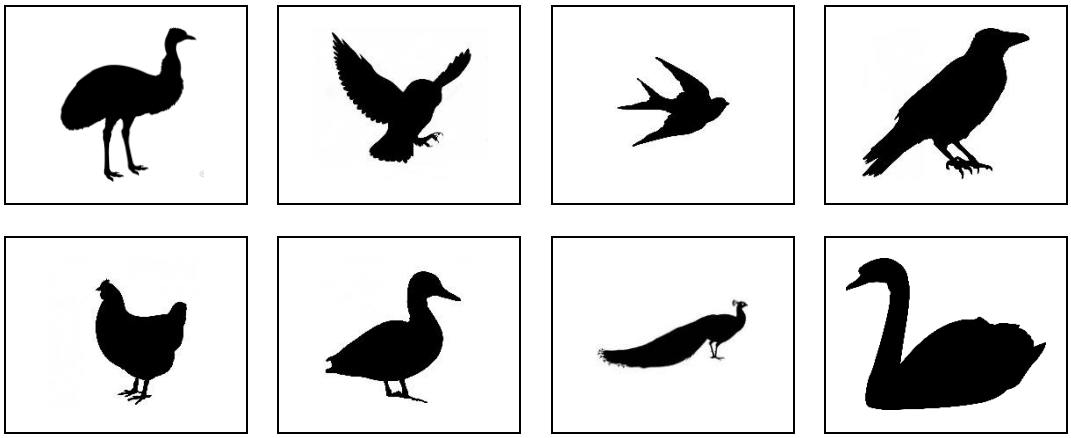
Base word	**+(ie)s**	**+ing**	**+(i)ed**
cry	cries	crying	cried
fry	fries	frying	fried
play	plays	playing	played
spray	sprays	spraying	sprayed
spy	spies	spying	spied
stay	stays	staying	stayed

The logical presentation of the words enabled the students to "have a look down the…word list and…[s]ee if you can find some patterns or some discovery or findings about those words" (00:21:46 - 00:22:14). Referring to the lists of words, Zahra then coordinated a dialogue with the students – which, as per Table 22, consisted of directions, explanations and questions-answer exchanges – about the spelling patterns they had identified. Eventually, she articulated the two applicable rules:

- when the word ends with a consonant + *y*, change the *y* to an *i* and add *-ed*/*-es*
- when the word ends with a vowel + *y*, leave the *y* and add *-ed*/*-s*

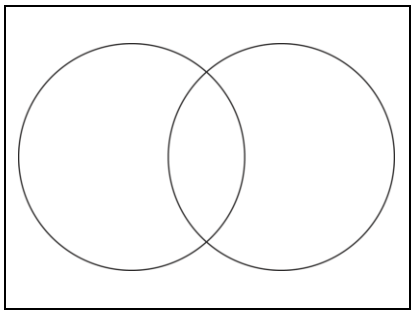
The sheet of words – and, more specifically, the students' ordering of the content of that document ("cut them out and…do a word sort") – made the orthographic patterns visible and provided the basis on which Zahra engaged the students in a dialogue that illuminated the rules that underpinned those patterns.

In Part 2 of the lesson, Zahra used the collection of silhouettes of birds and the Venn diagram proforma to mediate students' learning. The day before, the students had "enter[ed] the ArtStart competition, so we were looking at silhouettes and African birds, so I just thought, 'Well, perfect. The silhouettes of these birds' – because I wanted them to mainly focus on…the peacock and the swan, but wanted them to know that there are different types of birds" (Zahra, post-lesson interview, 00:04:58 - 00:05:12):



Capitalising on this serendipitous link, Zahra used the silhouettes of the emu, owl, sparrow, crow, chicken, duck, peacock and swan to (a) mentally attune the students to the content of *Feathers and Fools* (i.e., the characters in the text are anthropomorphic birds – specifically, peacocks and swans) and (b) in preparation for the Venn diagram task, familiarise them with the concept of categories and the process of categorising. As per the descriptive synopsis of the lesson, the students enjoyed identifying/naming each bird and the process of categorising them according to their physical capabilities.

An A4-sized copy of the Venn diagram proforma, which consisted of two intersecting circles, was distributed to each group for the purpose of comparing and contrasting peacocks and swans:



Zahra explained the process of completing the Venn diagram:

> So what I want you to do, when you've got your compare the two, let's…categorise them as the peacocks and the swans, so let's just focus on these two today. … I want you to tell me: What's the same about both of those birds? So in the *both* category [pointing to the middle of the diagram, where the circles intersect]. Then I want you to tell me: What's different? … Peacocks down here [pointing to the circle on the left]: What's different to the swans? Swans on this side [pointing to the circle on the right]. Going to give you 10 minutes to come up with similarities and differences. What's the same? What's different? (00:44:17 - 00:45:57)

Zahra circulated the classroom and supported the groups to complete their Venn diagrams, addressing, predominantly, the physical characteristics of peacocks and swans – for example, at 00:49:23 - 00:51:15:

> Look at the obvious things, too, STUDENT. So what do they have that they both have right there the same? What are the obvious things? What makes a bird a bird? Come on, STUDENT. Wings. What else is obvious? Right there. Very literal." [STUDENT: "They've both got a long neck."] "OK, that's a good one. … What are their mouths like?" [STUDENT: "Beaks."] "There you go. Alright, try and get some differences if you're getting stuck. Do peacocks swim? Mmm.

Zahra also directed students to the two colour photographs that were attached to the easel – for example: "Have a look up on the little board. They've both got wings, so write *wings*. Terrific" (00:47:50 - 00:48:40) and, "You might need to go and have a look at the photo that's on my little whiteboard. That might help you." [STUDENT: "Rainbow."] "Is it rainbow? Go and have a look" (00:51:36 - 00:52:24).

The table of words, collection of silhouettes, Venn diagram proforma and photographs were used by Zahra to stimulate and coordinate students' thinking. By physically rearranging a collection of base words and derivatives, the students in Group 3 were able to identify and describe orthographic patterns and begin to articulate the rules that underpinned those patterns. By classifying birds according their physical capabilities, the students were mentally attuned to the content of *Feathers and Fools* and, also, prepared for the process of comparing and contrasting peacocks and swans – and that process was, then, supported by the application of the Venn diagram proforma, a tool that enabled the students to capture, verbally-diagrammatically, their thoughts regarding the "similarities and differences"

(00:44:17 - 00:45:57) between the two birds. To help identify these similarities and differences, students could refer to the photographs.

Choice of examples. *Choice of examples* has a Category Frequency $n = 1$ and applies to a moment of teaching that occurred during Part 1 of the lesson (Group 3, spelling). Arranged logically, the table of base words and derivatives exemplified particular orthographic patterns; moreover, the rules that informed those patterns were illuminated. To focus the students' attention on those patterns, Zahra asked the students to "have a look at" one of the words in the reordered table: "So say, *for example*, have a look at *cry*: *cry* ends with a *y* and has a consonant in front of it. What happens when you want to just add -*s* with *cries*?" [STUDENT: "It gets rid of the *y* and adds -*ie*."] … "It adds -*ies*, not just -*s*" (00:22:14 - 00:22:34; emphasis added). Zahra's decision to ask the students to "have a look at *cry*" in preference to other words from the table that also exemplified the orthographic pattern (*fry* and *spy*) was not explored in post-lesson interview, meaning the reason(s) underpinning her choice of exemplar remains unknown. Rowland et al. (2009) suggested examples should be meaningful to students, should resonate with them. Perhaps, then, Zahra selected *cry* because crying is an activity that all of the students would have experienced personally/directly – unlike, perhaps, frying or, in particular, spying – and this reference to a meaningful and, moreover, emotive activity would provide, somehow, a more effective context for learning. Rowland et al. stated that teachers should "choose appropriate examples when demonstrating or eliciting an idea" (p. 36).

Use of instructional procedures. *Use of instructional procedures* has a Category Frequency $n = 1$ and applies to Zahra's uninterrupted reading aloud of *Feathers and Fools* to the class in Part 3 of the lesson (01:07:04 - 01:12:59). As per the descriptive synopsis of the lesson, each page of the book was displayed on the IWB (see https://www.youtube.com/watch?v=hzF9P6fDBOA), making Wilton's detailed illustrations

easier for the students to see and appreciate. According to Annandale et al. (2004), Reading to Students – defined as "[r]eading a text aloud to students" (p. 8) – is the reading procedure located at the extremity of the teacher-controlled end of the GRR continuum:

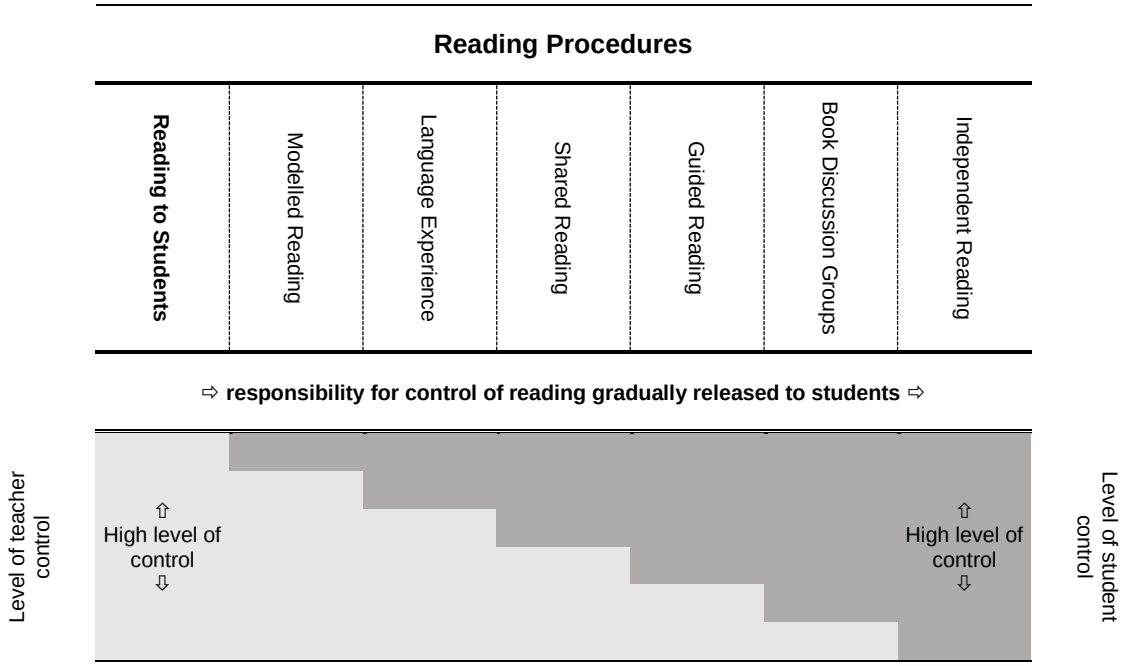


Figure 5. Reading Procedures and the Gradual Release of Responsibility model.

Unlike the other procedures located within this zone (Modelled Reading, Language Experience and Shared Reading), the purpose of Reading to Students, Annandale et al. (2004) stated, is *not* to explicitly teach reading strategies, language structures or vocabulary but, rather, to display a positive attitude toward reading and demonstrate effective reading behaviours (e.g., fluency, including accuracy, intonation, pace and volume). Zahra's application of the Reading to Students procedure was characterised by many of the features suggested by Annandale et al. (2004), including:

- prediction of plot and themes based on the title of the book and cover illustration
- "discussions before reading to help build prior knowledge and assist understanding [of] content or concepts" (p. 9)
- provision of a rationale for the choice of text

- time for students to reflect on and discuss the text

A Reading to Students session is an opportunity for the teacher to share his/her enjoyment of reading (Annandale et al., 2004; Layne, 2016). Before reading *Feathers and Fools* to the class, Zahra told the students that "Mem Fox is a very famous author; *I love her books* [emphasis added], so I might have to bring few more books of hers into our classroom" (00:32:04 - 00:34:22). She reiterated her enthusiasm for Fox's work in post-lesson interview: "She's not well-known enough, though. When I bring in *Possum Magic* and bits and pieces and start to show the actual texts we have read before and they will start to realise who Mem Fox actually is" (Zahra, post-lesson interview, 00:08:20 - 00:08:32). Zahra was pleased to learn, too, that *Feathers and Fools* was unfamiliar to the students and that listening to the story would, therefore, be a novel experience for them: "Anyone ever read this book before? No? Good. It's always good" (01:07:04 - 00:07:14).

The Reading to Students session introduced the class to one of Fox's lesser-known works – "this is one of her older books, it's actually one of the ones that were written way back in 1989" (01:04:37 - 01:05:22) – and, also, served as a vehicle by which the students could begin to consider matters pertinent to the social dynamics within their classroom.

Transformation: Summary

Four categories from Transformation applied to Zahra's teaching: *Teacher demonstration*; *Use of instructional materials*; *Choice of examples*; and *Use of instructional procedures*. Table 27 reiterates, concisely, how those categories applied thereto.

Table 27

Summary of how four categories from Transformation applied to Zahra's pedagogy

Category	Frequency	Application to Zahra's pedagogy
Teacher demonstration	1	During Part 2 of the lesson, Zahra demonstrated/co-completed the process of classifying several birds according to their physical capabilities and, in so doing, familiarised the students with the concept of categories and the process of categorising.
Use of instructional materials	4	Zahra used a commercially produced table of base words and derivatives to mediate students' learning of particular orthographic patterns and the rules that underpin them. She used a collection of silhouettes of birds, a Venn diagram proforma (both developed by her) and colour photographs of a peacock and swan to attune students to the content and themes of *Feathers and Fool*s.
Choice of examples	1	Of the words in the reordered table that illustrated the consonant + *y*, change the *y* to an *i* and add *-ed*/*-es* spelling 'rule', Zahra chose *cry*. The reason(s) for this choice is unknown.
Use of instructional procedures	1	In Part 3 of the lesson, Zahra used the instructional procedure Reading to Students.

Hereunder, the categories from Connection that apply to Zahra's pedagogy are addressed.

Connection: Categories Relevant to Zahra's teaching

Analysis indicates that Connection has a Dimension Frequency $n = 62$, with four categories therefrom applying to Zahra's teaching: *Pedagogical cohesion: Macro-level scaffolding*; *Pedagogical cohesion: Micro-level scaffolding*; *External connectivity: Text-to-world connection*; and *External connectivity: Text-to-text connection*. How each of these categories applies to Zahra's pedagogy is the focus of the following sections of the chapter. Explanations of the applicability of the categories are made with reference to material from the lesson, and content from post-lesson interviews. The section concludes with a summary.

Pedagogical cohesion: Macro-level scaffolding. *Pedagogical cohesion: Macro-level scaffolding* has a Category Frequency $n = 13$. Of these 13 cases, nine occurred in Part 1

of the lesson (Spelling); one occurred in Part 2 of the lesson (Pre-reading and discussion); and three occurred in Part 3 of the lesson (Reading and discussion). The code has been applied to moments of teaching wherein Zahra explicitly located the content/learning of the current lesson within a larger teaching-learning program, connecting it to content/learning from prior lessons and/or to content/learning that would be the focus of future lessons. In Part 1 of the lesson, Zahra made these connections as follows:

- at 00:02:13 - 00:02:27, addressing Group 3, flagged the context for the upcoming teaching/learning ("new spelling words") by indicating that work associated with a previous body of words had been completed: "you'll also need to paste in your old words so that we can start our new spelling words their way."
- at 00:02:41 - 00:02:57, addressing Group 4, reminded the students of the tasks they had completed and provided direction: Ah, so Group 4, you'll need to word sort your new words. … We had our new words Group 4 people. We didn't get…a chance to go through them really well so have a go at word sorting them as a team."
- at 00:03:01 - 00:03:20, addressing Group 5, reminded the students of the tasks they had completed and provided direction: "Group 5, you're up to partner test. I'm pretty sure…we will need new words tomorrow. So just make sure that all of your strategies are done; having a go at that visual strategy as well with your words: putting them in alphabetical order, see if you can do all your words."
- at 00:03:34 - 00:03:46, addressing Group 2, reminded the students of the focus of recent teaching/learning in spelling and provided direction: "Group 2, Strategies Box: focusing on the visual strategies that we've been looking at. See if you can choose 10 of your words to put in alphabetical order; that was the activity that we practised the other day."

- at 00:03:48 - 00:04:34, addressing Group 1, suggested the students review the words that have been the basis of recent work/learning in spelling and specified the task to be completed: "Group 1, Speed Sort. OK, so…grabbing a timer and going through your words. You might need a refresher of what your words are before you do that, OK?"
- at 00:05:46 - 00:06:06, linked current expectations to prior learning: "We right, guys? … So alphabetical order – we don't really need a card, do we? Do we remember – on the board, we looked at alphabetical order."
- at 00:06:33 - 00:07:56, addressing Group 3, reminded the students that "we've had these words for two weeks, now" and, therefore, that "sorting and pasting" should be completed "quickly".
- at 00:27:02 - 00:28:06, addressing Group 3, linked the focus of the current teaching/learning (particular orthographic patterns and the rules that underpin them) to "a challenge" the students would complete the next day: "So tomorrow, when you write these into your book, I want you to have a look up in the dictionary on the word *ski*. … It is *s-k-i*, but I wanna have a look at what happens when you're skiing and want you tomorrow to come back to me and let me know what happens with *ski*: how we write it, how you spell it and then what happens with that *-ing* pattern, keeping in mind our rules here. That's a challenge for you."
- at 00:30:20 - 00:31:32, addressing a student, connected the focus of current work/learning to previous and future teaching/learning: "Yep, *Words Their Way*; we've always done the sounds. … What's the rule with them and are they the oddball exception? … We're due to meet, aren't we, tomorrow? We're due to meet with our spelling so we'll go through them, so don't highlight as yet; and I'll explain the ones that you're unsure of."

Pedagogical cohesion: Macro-level scaffolding applies, also, to moments of teaching that occurred during Part 2 and Part 3 of the lesson. Early in Part 2 of the lesson, at 00:33:21 - 00:34:22, Zahra linked the newly introduced focus/content of teaching and learning to the general level of knowledge and skill that students had previously demonstrated, and indicated that forthcoming instruction would further develop students' understanding and capacity:

> I noticed that when we did our NAPLANs and when we're having a look at writing stories, a lot of us – we're missing gaps, we had some gaps in our writing, so we're going to start looking at the orientation of our writing and we're also going to have a look at how we write using speech marks appropriately and effectively and how that speech is not just a conversation but how it promotes our actions: how it states how we move and how the character moves and things that occur in the text.

At the beginning of Part 3 of the lesson, Zahra acknowledged prior learning that would be applied and developed in the context of the new unit of work on *Feathers and Fools* and effective narrative writing:

- "you're going to be delving into what the author's trying to say and their meaning. You've been doing a lot of inferring in your reading groups and that's what we're going to try and grasp today and over the next couple of weeks with this book" (01:04:00 - 01:06:37)
- "We're going to start looking at the sentences that she has, going on our knowledge of a complex sentence, a compound sentence, a simple sentence: Mem Fox uses a lot of complex and compound sentences in this story" (01:05:28 - 01:06:15).

At the close of the lesson, after reading *Feathers and Fools* to the class, Zahra linked features of the text – specifically, the lexis of the opening sentence (*In a rambling garden,*

long ago and far away, there lived a pride of magnificent peacocks) – to future learning: "…so we will have a look at that in a little bit more detail and why she has chosen the words that she's chosen" (01:17:58 - 01:18:45).

Throughout the lesson, Zahra explicated the connection between the focus of the current instruction and students' prior learning, or between the focus of the current instruction and students' future learning. Zahra had, it seems, a sense of the unit-level learning outcomes that she wanted her students to achieve and, also, a sense of her students' current levels of knowledge and skill in relation to those outcomes, based on their prior experiences. Based on this knowledge, and on her knowledge of the cognitive and language demands associated with specific tasks and goals, Zahra had in mind a sequence of learning experiences – a macro-level scaffold – designed to support the students as they developed new understandings and skills. During the lesson, Zahra 'signposted' this 'map of learning' for the students by explaining how past, current and future learning was connected. Indeed, Sharpe (2001) emphasised the "importance of helping students to make explicit the connections, both backwards to previous experiences and forward" (p. 36) – which Zahra did.

Pedagogical cohesion: Micro-level scaffolding. The category *Pedagogical cohesion: Micro-level scaffolding* has a Category Frequency $n = 32$ and applies to the measures that Zahra took – some 'designed-in'/task-level ($n = 4$) and others contingent/'point-of-need' ($n = 28$) (Sharpe, 2001) – to (a) develop some students' understanding of particular orthographic patterns and their underpinning rules and (b) begin to develop all students' essential-level comprehension of *Feathers and Fools*. During the lesson, Zahra orchestrated multiple layers of micro-level scaffolding, with many of the 28 moments of contingent/point-of-need micro-level scaffolding taking place within a series of carefully sequenced tasks: in Part 2 of the lesson, four task-level micro-level scaffolds – the elements PREDICTION TASK (00:32:04 – 00:34:22) and CATEGORISATION TASK (00:38:51 -

00:58:26), and the sub-elements SILHOUETTES TASK: ADDRESSES WHOLE CLASS (00:41:50 - 00:44:17) and VENN DIAGRAM TASK: MONITORS SMALL GROUPS (00:44:17 - 00:58:26) – cumulatively developed students' corpora of semantic knowledge for beginning to comprehend *Feathers and Fools* at the essential level. Each of these tasks was comprised of a series of contingent/point-of-need micro-level scaffolds. The account, below, of the micro-level scaffolding that Zahra orchestrated throughout the lesson is organised according to each part of the lesson.

Pedagogical cohesion: Micro-level scaffolding – Part 1 of lesson (Spelling).

Hammond and Gibbons (2001) stated that micro-level scaffolding is realised in "moment-by-moment interactions between teacher and student" (p. 6) and that "[t]hrough [this] talk...information and ideas can be shared, points of view explored, and explanations presented. In the process, new ways of thinking and understanding may be constructed. These new ways of thinking and understanding may represent only minor shifts, but they are significant in the ongoing construction of knowledge" (p. 13). Point-of-need micro-level scaffolding, Sharpe (2001) observed, often takes "the form of questions and answers" (p. 33). The micro-level scaffolding that occurred in Part 1 of the lesson, when Zahra was identifying orthographic patterns and their underpinning rules with Group 3, took this form, as per Table 28.

Table 28

Details of the point-of-need micro-level scaffolding that occurred during Part 1 of the lesson

Time in lesson	Description of point-of-need micro-level scaffolding moment	Intended purpose/effect of moment
00:21:46 - 00:22:14	Direction: "See if you can find some patterns or some discovery…about these words."	Students begin to construct knowledge of orthographic patterns.
00:22:14 - 00:22:34	Question-answer exchange: "What happens when you want to just add *-s* with *cries*?" [STUDENT: "It gets rid of the *y* and adds *-ie*."] … "It adds *-ies*, not just *-s*."	Students continue to construct/refine knowledge of orthographic patterns.
00:22:35 - 00:23:16	Question-answer exchange: "So why, with *crying*, do we just add *-ing*? What would it be like if you were to write *cry* and then drop the *y* to add *-ies* or drop the *y* to add *-ied*, then you're dropping the *y* to add *-ing*?"	Students continue to construct/refine knowledge of orthographic patterns.
00:23:19 - 00:24:47	Direction, explanation: "So it's a bit tricky, so I want you to be aware that some of these words still have that *y* on them when adding *-ing*. But when you're adding *-s* or *-ed*, you change that *y* to the *i*."	Students continue to construct/refine knowledge of orthographic patterns.
00:24:50 - 00:25:50	Question-answer exchange, explanation: "I'll ask the question again: Why are we changing the *y* to add *-ies* or *-ied*? … Because it's a wanna be. So you need to know all these different rules with these words.	Students continue to construct/refine knowledge of orthographic patterns and begin to develop understanding of the rules that underpin them.
00:25:51 - 00:26:29	Question-answer exchange, explanation: "I want you to have a look at *play* and *fry*. They both end in the *y*, one ends in the *-ay*. What happens when you…add the *s*. What happens to that word?" [STUDENT: "*Play*s, it's just a normal word with the *s*. *Fries* is *-ies*."] [STUDENT: "Because, there is a vowel before the *y*…and before *fry* there's not."] "Right, so there you go, so there's that rule."	Students continue to construct/refine knowledge of orthographic patterns and begin to develop understanding of the rules that underpin them.

Pedagogical cohesion: Micro-level scaffolding – Part 2 of lesson (Pre-reading and discussion). *Pedagogical cohesion: Micro-level scaffolding* applies, also, to elements of instruction and moments of teaching that occurred in Part 2 of the lesson. In this part of the lesson, the micro-level scaffolding was multilayered, consisting of 'coarse' and 'fine' tiers; that is, of *tasks* that were sequenced to develop, cumulatively, students' knowledge,

understanding and capacity; and within each of those tasks, moment-by-moment transactions that shaped students' thinking and language. Hammond and Gibbons (2001) have noted that "scaffolding needs to be thought of in relation to the…selection and sequencing of tasks *and* [emphasis added] to the specific classroom interactions that are part of those tasks" (p. 6).

The PREDICTION TASK (consisting of turn-and-talk + whole-class sharing) that Zahra coordinated early in Part 2 of the lesson, from 00:34:25 - 00:38:49, was a task-level micro-level scaffold that prepared students for listening to and beginning to comprehend (at the essential level) *Feathers and Fools* later in the lesson. The process of predicting – that is, of 'tuning' students' attention to the content and possible themes of the story, and of them verbalising their thoughts – was, itself, achieved through several moment-by-moment interactions, as per Table 29.

Table 29

Moment-by-moment interactions (i.e., point-of-need micro-level scaffolding) that occurred during the task-level micro-level scaffold PREDICTION TASK

Time in lesson	Description of point-of-need micro-level scaffolding moment	Intended purpose/effect of moment
00:34:25 - 00:35:10	Direction (question, turn-and-talk): "I want you to have a think and predict: What do you think the book might be about? … Start thinking a little bit more creatively and start to think to yourself: What's there in the picture, but what is the author's message trying to be? What are they getting across? You turn and talk to someone about that."	Builds the field of knowledge: attunes the students' attention to the content and possible themes of the story ("[W]hat is the author's message trying to be?"); activates background knowledge and prepares them for listening to and comprehending the story. Addresses essential-level comprehension.
00:35:10 - 00:36:27	Turn-and-talk (dialogues with a student, question-answer exchange): "What do you think the book's about?" [STUDENT: "Feathers and fools."] "Mmm, let's turn it into a little bit more in depth. So let's not just say it's about feathers and fools. What is *fools*?" [STUDENT: "It's about people that make…mistakes."] "Mmm. So, is it about people – the story? K, so what do you think it might be about?"	Builds the field of knowledge: extends and directs the students' thinking by asking the student to consider the meaning of *fools*; attunes the student's attention to possible themes of the story. Addresses essential-level comprehension.
00:36:43 - 00:36:58	Whole-class sharing, question-answer exchange: "Firstly, what is a fool? … Someone that's maybe selfish, maybe greedy. … STUDENT? … Makes a lot of mistakes. Maybe. Maybe."	Builds the field of knowledge: directs the students' thinking, attunes the students' attention to themes explored in *Feather and Fools*. Addresses essential-level comprehension.
00:36:59 - 00:37:11	Whole-class sharing, question-answer exchange: "So, if it's about somebody, then what who do you think this book is about? What are the characters?" [STUDENT: "Birds that cannot fly."] "Birds that can't fly. OK."	Builds the field of knowledge: directs the students' thinking, attunes the students' attention to the content of *Feathers and Fools*.
00:37:11 - 00:37:26	Whole-class sharing, question-answer exchange: "What are the types of birds that are depicted there? … Good guess: it's a peacock and a swan."	Builds the field of knowledge: directs the students' thinking, attunes the students' attention to the content of *Feathers and Fools*.
00:37:28 - 00:37:43	Whole-class sharing, question-answer exchange: "So, can a swan fly? … Yes it can." [STUDENT: "I bet you that they have feathers but they can't fly and they're fools."] "Maybe. Mmm, good predicting."	Builds the field of knowledge: directs students' thinking, attunes the students' attention to the content of *Feathers and Fools*.

00:37:43 - 00:38:27	Whole-class sharing, question-answer exchange: "Let's have some more predictions about what the book's about." … [STUDENT: "…thought that…peacock had nice feathers but he the peacock was calling the swan a fool and…swan was has feathers but…just because he's got prettier ones it doesn't mean that he's different."]	Builds the field of knowledge: directs students' thinking, attunes the students' attention to the content of *Feathers and Fools*. Addresses essential-level comprehension.
00:38:27 - 00:38:49	Whole-class sharing, question-answer exchange: "Anyone else got something to say?" [STUDENT: "…thought that the swan was going to be greedy and selfish because he could fly and the peacock couldn't because it…wasn't able to fly so it just sat in the garden while swan was"]	Builds the field of knowledge: directs students' thinking, attunes the students' attention to the content of *Feathers and Fools*. Addresses essential-level comprehension.

The CATEGORISATION TASK, which formed the bulk of Part 2 of the lesson (00:38:51 - 00:58:26), involved, also, multiple layers of micro-level scaffolding: three task-level micro-level scaffolds – the SILHOUETTES TASK, the VENN DIAGRAM TASK, and WHOLE-CLASS SHARING – each included point-of-need micro-level scaffolds, or moment-by-moment transactions – as per Table 30.

Table 30

Details of layers of micro-level scaffolding (task-level and point-of-need) that occurred during the CATEGORISATION TASK

Task-level micro-level scaffold	Time in lesson and description of moment of point-of-need micro-level scaffolding	Intended purpose/effect of moment
Silhouettes task	00:40:24 - 00:41:47 Question-answer exchange: "What do I mean by categories? STUDENT?" [STUDENT: "A categories is kinda like something that's the same but, like, different at the same time."] "Mmm-hmm, alright, yep."	Familiarises the students with the language/conceptual demands of the task.
	00:42:33 - 00:42:39 Question-answer exchange: "Could this one [crow]?" [STUDENTS: "Yes."] "Yes what? Yes what?" [STUDENT: "It can fly."] "Yes, yes it can fly."	Reiterates/reinforces the conceptual demands of the task.
	00:42:40 - 00:43:13 Question-answer exchange: [STUDENT: "Can ducks fly?"] "So, so can they fly long distances, STUDENT?" [STUDENT: "No." STUDENT: "It depends what kind of ducks they are."] "Let's think of the ducks that are at the Waverly Pond or the ducks that are at City Park. … But can they fly into my backyard in Trevallyn?" [STUDENTS: "No."] "Right, well I'm going to put them over here."	Delimits the field of applicable knowledge and defines the boundaries of the concepts informing the process of categorisation.
	00:43:31 - 00:44:17 Question-answer exchange: "Can a peacock fly?" [STUDENTS: "No."] "Mmm. No, they can't fly. They can fly a certain height, but not distance. So they can fly because where do peacocks sleep?" [STUDENT: "In trees."] "In trees."	Communicates the field of applicable knowledge and clarifies the scope of the concepts informing the process of categorisation.
Venn diagram task	00:46:41 - 00:46:44 Addresses class: "Spelling on the board to make sure you've got it correct."	Assists students to complete the task by directing them to a supporting resource.
	00:47:50 - 00:48:40 Addresses a group: "So STUDENT, tell me something that's the same. Something that's the same about both the birds. Have a look up on the little board. They've both got wings, so write *wings*. Terrific."	Develops students' thinking; clarifies task expectations.
	00:48:59 - 00:49:11 Addresses a group: [STUDENT: "I don't know what's different about them."] "OK, well let's focus now on the peacock. Tell me what you can see and what's different about that to the swan."	Develops students' thinking; clarifies task expectations.

Venn diagram task (continued)	00:49:23 - 00:51:15 Addresses a group: "So what do they have that they both have right there the same? What are the obvious things? What makes a bird a bird? Come on, STUDENT. Wings. What else is obvious? Right there. Very literal." [STUDENT: "They've both got a long neck."] "OK, that's a good one. … What are their mouths like?" [STUDENT: "Beaks."] "There you go."	Develops students' thinking; clarifies task expectations.
	00:51:16 - 00:51:30 Addresses a group: [STUDENT: "What are those things called on a peacock's head?"] "They're feathers; it's almost like a crest, isn't it?" [STUDENT: Can I put that in *peacock* for difference?"] "Sure."	Refines student's vocabulary; clarifies task expectations.
	00:51:36 - 00:52:24 Addresses a group: "STUDENT, what…can you see on the swan that's not on the peacock? … OK, so what colour is the swan? … So white, so write that one down. [STUDENT: "…peacock is colourful."] "What are the main colours in the peacock, STUDENT? … You might need to go and have a look at the photo that's on my little whiteboard." [STUDENT: "Rainbow."] "Is it rainbow? Go and have a look."	Develops students' thinking; clarifies task expectations; assists students to complete the task by directing them to a supporting resource.
	00:52:30 - 00:54:00 Addresses a group: "Where's the swan?" [STUDENT: "In the water." STUDENT: "It lives in wet areas." STUDENT: "Wouldn't that be both, 'cause they both live in wet areas."] "Have you seen a peacock in the water before?" [Student: "Yes."] "Have you? Excellent. I don't know if I have." [STUDENT: "I think they're a bit too posh to…get their feathers wet."] "Mmm, that might give you a bit of an insight into *Feathers and Fools*."	Develops students' thinking; links students' thinking to the content of *Feathers and Fools*.
	00:54:07 - 00:54:42 Addresses a group: "STUDENT, what are the colours of the swan and the colours of the peacock?" [STUDENT: Swan's sometimes black…white. Peacock's blue and green."] "There you go, so there's some comparisons."	Develops students' thinking; clarifies task expectations.
Whole-class sharing	00:59:05 - 01:03:32 Explanation: "I want you to share, firstly, your differences and then your similarities. … And then I'm going to collate…them, which means collect them all and I will type them up so that we've all got the same copy, so that we've got everyone's ideas as a class."	Develops students' vocabulary.

The *entire* CATEGORISATION TASK can, itself, be considered a task-level micro-level scaffold that, like the PREDICTION TASK, prepared students for listening to and beginning to comprehend *Feathers and Fools*, which Zahra read to the class at the beginning of Part 3 of the lesson. As such, the SILHOUETTES TASK, the VENN DIAGRAM TASK and WHOLE-CLASS SHARING could, in fact, be considered sub-tasks, or mid-level micro-level scaffolds, that

contributed, cumulatively, to the overall goal of the categorisation process (i.e., to prepare students to listen to and begin to comprehend *Feathers and Fools* by introducing them to the content of, and themes explored in, the story; that is, by developing the field of knowledge).

The 27 instances of point-of-need micro-level scaffolding described above in Table 28, Table 29 and Table 30 reflect notions of 'what counts' as scaffolding, as defined by Maybin, Mercer and Sterier (1992):

> [Scaffolding] is not just any assistance which helps a learner accomplish a task. It is help which will enable a learner to accomplish a task which they would not have been quite able to manage on their own, and it is help which is intended to bring the learner closer to a state of competence which will enable them eventually to complete such a task on their own. (p. 188)

Mercer (1994), augmenting the earlier work of Maybin, Mercer and Sterier (1992), proposed the following criteria for distinguishing scaffolding, which are demonstrated across the 27 instances of contingent/point-of-need micro-level scaffolding described in Table 28, Table 29 and Table 30:

- students could not succeed without the teacher's intervention
- the teacher aims for some new level of independent competence on the part of the student(s)
- the teacher has the learning of some specific skill or concept in mind
- there must be evidence of the students successfully completing the particular task
- there must be evidence that students are now able to go on and deal independently with subsequent related tasks or problems

Pedagogical cohesion: Micro-level scaffolding – Part 3 of lesson (Reading and discussion). The final case of *Pedagogical cohesion: Micro-level scaffolding (point-of-need)* occurred at 01:13:29 - 00:14:33, when, after reading *Feathers and Fools* to the class, Zahra directed the students to "[t]urn and talk to the people around you about what you've noticed about the story." Zahra talked to a student, as follows:

> What did you see? Come and talk to me. Mmm. So it was about a peacock and a – ? [STUDENT: "Swan. But it was mostly about the peacock…"] OK, what happened to them? What did it try and tell you about the peacock? … What happened? What's the story about? Who was the fool? [STUDENT: "Peacock."] Why? [STUDENT shrugs] Mmm. … [STUDENT: "There's not only one fool."] Ooo, no, you might be right.

Zahra began by checking the student's literal-level comprehension of the text – "So it was about a peacock and a – ?" – and, then, prompted the student to consider possible *meanings* of the story by asking "What was the story about?" and "Who was the fool?" Zahra's attempt to illuminate the student's thinking (i.e., that is was the peacocks who were fools) was, initially, resisted – "Why?" [STUDENT shrugs]. Eventually, however, the student volunteered a perceptive observation – "There's not only one fool" – which Zahra acknowledged. During this brief exchange, Zahra began to expand the student's potential to make meaning of the story. She was able to "identify a 'teachable moment' and maximise the learning potential of that moment…[through]…talk…in the form of questions and answers" (Sharpe, 2001, p. 33).

These point-of-need micro-level scaffolds, or moment-by-moment transactions, appear to reflect the social view of mind posited by Vygotsky and elaborated by Bruner (1985). Zahra scaffolded students' completion of the categorisation process, for instance, by assuming the role of "vicarious form of consciousness" (Bruner, 1985, pp. 24): her calculated

instrumental support (Bråthen, 2002; Federici & Skaalvic, 2013) – in the form of directions, suggestions, questions and responses – provided the means and medium by which students were able to elaborate, shape and refine their thinking, and begin to develop "conscious control over a new…conceptual system" (pp. 24-25). Halliday (1980) stated that students learn *through* language, and cognition, as Jones (2001) noted, "is a consequence of interactions" (p. 72). External collaborative activity becomes internalised, driving cognitive growth.

Zahra began Part 3 of the lesson by linking the categorisation task to the reading aloud of *Feathers and Fools* that she was about to 'do': "What was the purpose of getting you to look at the differences and similarities between peacocks and swans? Why have I got you to do that before reading a story?" [STUDENT: "…you want to see what we already know."] "Yeah, I need to know your prior knowledge and that's really important when you're picking up books and you're going to be delving into what the author's trying to say and their meaning." (01:04:00 - 01:06:37). As per **Pedagogical cohesion: Macro-level scaffolding** (above), Zahra explicitly connected the content/learning of the current lesson to past and future lessons/learning. As well, she helped students develop a sense of coherence regarding different parts of the current lesson by explicating how the learning 'done' in one part of the lesson supported the learning 'done' elsewhere: she 'signposted' the 'map of learning' *for* the lesson.

Micro-level scaffolding is complex (Hammond & Gibbons, 2001). Circumscribed by the macro-level emphases of curriculum-informed learning intentions and knowledge of students' current levels of understanding and skill relative to those goals, micro-level scaffolding occurs, as the preceding evidence indicates, at multiple levels. At the 'coarse' level, it consists of carefully sequenced tasks, which may themselves consist of a series of carefully sequenced sub-tasks; at the 'fine' or point-of-need end of the continuum, it consists

of moment-by-moment transactions between teacher and student(s). During the lesson, Zahra coordinated these different tiers of micro-level scaffolding.

External connectivity: Text-to-world connection. *External connectivity: Text-to-world connection* has a Category Frequency $n = 15$, the third-highest of the category frequency. The regular applicability of the category appears to be linked to the foremost purpose the lesson – namely, to begin to develop students' comprehension of *Feathers and Fools*. The category applies to moments of teaching that occurred in Part 2 of the lesson when, during the prediction and categorisation tasks (00:34:25 - 00:38:49 and 00:38:51 - 00:58:26), Zahra prompted students to access, discuss and record their knowledge of peacocks and swans; that is, "to look at the differences and similarities between peacocks and swans" because accessing "your prior knowledge [is] really important when you're picking up books and you're going to be delving into what the author's trying to say and their meaning" (01:04:00 - 01:06:37). At 00:37:11 - 00:37:26, after the students had examined the cover of *Feathers and Fools* and turned and talked to a partner about "What do you think this book might be about?" (00:35:25 - 00:35:10), Zahra asked, "What are the types of birds that are depicted there [i.e., on the cover, displayed on the IWB]?" and confirmed that "it's a peacock and a swan." Shortly afterward, the class completed the silhouettes task, which, as part of the process of classifying the silhouettes (texts), involved transactions wherein the students accessed and verbalised their knowledge of particular birds – for example: [STUDENT: "Can ducks fly?"] "So, so can they fly long distances, STUDENT?" [STUDENT: "No." STUDENT: "It depends what kind of ducks they are."] "Let's think of the ducks that are at the Waverly Pond or the ducks that are at City Park. … But can they fly into my backyard in Trevallyn?" [STUDENTS: "No."] "Right, well I'm going to put them over here" (00:42:40 - 00:43:13). As per Table 23, each of these moments of the silhouettes task was coded *External connectivity: Text-to-world connection*.

Students then moved to their desks to complete the Venn diagram task. As they completed the task, Zahra circulated the classroom and regularly engaged groups in dialogue that involved accessing, elaborating and recording their knowledge of peacocks and swans, and connecting this knowledge to the content of *Feathers and Fools*. Each of these moments was coded *External connectivity: Text-to-world connection*. Salient examples are detailed below:

- at 00:49:23 - 00:51:15: [STUDENT: "What do peacocks eat?"] "I don't know. How can you find that out? You'll have to use your prior knowledge. Look at the obvious things, too, STUDENT. So what do they have that they both have right there the same? What are the obvious things? What makes a bird a bird?"
- at 00:52:30 - 00:54:00: "Where's the swan?" [STUDENT: "In the water." STUDENT: "It lives in wet areas." STUDENT: "Wouldn't that be both, 'cause they both live in wet areas."] "Have you seen a peacock in the water before?" [Student: "Yes."] "Have you? Excellent. I don't know if I have." [STUDENT: "I think they're a bit too posh to…get their feathers wet."] "Mmm, that might give you a bit of an insight into *Feathers and Fools*." Addresses essential-level comprehension.
- at 00:54:07 - 00:54:42: [STUDENT: "Fly up in the trees. And swans can swim."] "OK, there you are. STUDENT, what are the colours of the swan and the colours of the peacock?" [STUDENT: "Swan's sometimes black…white. Peacock's blue and green."] "There you go, so there's some comparisons."
- at 00:55:10 - 00:55:52: [STUDENT: "Oh yeah, um, peacocks like to display their feathers."] "Mmm, OK. [STUDENT: "Something I have noticed is peacocks don't swim very much."] "Do they swim at all?" [STUDENT: "…is to drink."] "I think so, I think…that's the point that we really need to emphasise. And swans?" [STUDENT:

> "Swans love to swim."] "They do. Is that down on your list?" Addresses essential-level comprehension.

The value of students activating, verbalising, discussing and recording applicable knowledge prior to reading has been well documented (e.g., Pearson & Tierney, 1984; Ruddell & Unrau, 1994; Harris, 1998a, 1998b). Marshalling a corpus of relevant semantic knowledge (Pearson, 1976) before reading enables readers to better "comprehend [the] text through making strong connections between their prior knowledge and the new information presented in the text. Activating each student's prior knowledge before reading is important" (Annandale et al., 2004, p. 115). In post-lesson interview, Zahra reiterated the importance of this process, especially for her students. When asked why she had engaged the students in the silhouettes and Venn diagram tasks before reading *Feathers and Fools*, she replied:

> I think that's just from prior knowledge of the children and teaching career and it's just knowing that they don't have – the clientele up here, especially, don't have that understanding of certain animals and they don't have that conversation with parents at home. Ninety per cent of them wouldn't have those conversations so basing my knowledge and my prior knowledge of these children and knowing that their entry point needs to be base grade so that they can do it at their understanding. (Zahra, post-lesson interview, 02/11/2016, 00:06:27 - 00:06:59)

Zahra understood that being able to make text-to-world connections will support her students' comprehension of text. She provided opportunities for her students to access, marshal, verbalise and record the background knowledge that was critical to this process. As Harris, Turbill, Fitzsimmons and McKenzie (2006) stated, "[t]eachers who effectively

develop text participants are those who make links to children's experiences and understandings as they make meaning from books" (p. 97).

External connectivity: Text-to-text connection. *External connectivity: Text-to-text connection* has a Category Frequency $n = 2$. The first moment of teaching to which this category applies occurred in Part 2 of the lesson, when Zahra, after briefly introducing *Feathers and Fools* to the class, asked, "Hands up if you can tell me another book written by Mem Fox?" (00:32:04 - 00:34:17). Annandale et al. (2004) noted that text-to-text connection "involves readers thinking about other texts written by the same author" (p. 115). As per the descriptive synopsis of the lesson, one student was familiar with either *Good Night, Sleep Tight* (Fox & Horacek, 2012) or *Time for Bed* (Fox & Dyer, 1993), but mistakenly referred to the book as "Sleep Time" (00:32:04 - 00:34:17). Learning that many of her students were unfamiliar with Fox and her work, Zahra stated that "we'll have to come across a few more. Mem Fox is a very famous author; I love her books, so I might have to bring a few more books of hers into our classroom if we're going to have a look at how she writes" (00:32:04 - 00:34:17).

External connectivity: Text-to-text connection applies, also, to a moment of teaching that occurred during Part 3 of the lesson, when Zahra compared, very briefly, the "technical" language that "she [Fox] uses to write the story [*Feathers and Fools*]" to "what we normally speak in our everyday language" (01:04:37 - 01:05:22). Addressing students' text form knowledge, Zahra "want[ed] [the students] to be aware that we speak for different purposes and we write for different purposes", and to illustrate this point, she commented that Fox's "technical" language is unlike the language that would be characteristic of a text written for a different purpose and familiar audience: "Writing a letter to your best friend or an email or a text to your best friend is very different to writing a book" (01:04:37 - 01:05:22). In making this comparison, Zahra signalled the expectations that students would be required to meet in

relation to the language that figured in their narrative writing: "how Mem Fox uses those words to write her books and *how we can then use it…to bump us up a bit* [emphasis added]" (Zahra, post-lesson interview, 00:05:52 - 00:06:03).

Connection: Summary

Four categories from Connections applied to Zahra's teaching: *Pedagogical cohesion: Macro-level scaffolding*; *Pedagogical cohesion: Micro-level scaffolding*; *External connectivity: Text-to-world connection*; and *External connectivity: Text-to-text connection*. In the context of *Pedagogical cohesion: Micro-level scaffolding, External connectivity: Text-to-world connection* and *External connectivity: Text-to-text connection*, students' LITERAL- and essential-comprehension, and text form knowledge, was addressed by Zahra. Table 31 reiterates, concisely, how the categories from Connection applied to Zahra's teaching.

Table 31

Summary of how four categories from Connection apply to Zahra's pedagogy

Category	Frequency	Application to Zahra's pedagogy
Pedagogical cohesion: Macro-level scaffolding	13	Zahra regularly connected the content/focus of the current lesson to prior and future learning: she 'signposted' a 'map of learning' for the students by explaining how past, current and future learning was connected.
Pedagogical cohesion: Micro-level scaffolding	32 (4 task-level, 28 point-of-need)	Zahra applied multiple layers of micro-level scaffolding "within the broader macro scaffold" (Dansie, 2001, p. 50): a sequence of 'coarse' or task-level micro-level scaffolds cumulatively developed in students the knowledge needed to begin to comprehend *Feathers and Fools*; and the process of completing each of these tasks was itself coordinated through 'fine'/contingent micro-level scaffolds, often in the form of directions and questions. Addressed literal- and essential-level comprehension.
External connectivity: Text-to-world connections	15	Zahra provided opportunities for students to access, marshal, verbalise and record background knowledge relevant to *Feathers and Fools* and, in so doing, prepared students for listening to and beginning to comprehend the text. Addressed appreciative-level comprehension.
External connectivity: Text-to-text connections	2	Zahra provided students with the opportunity to name and talk about other books written by Mem Fox and, as well, compared the "technical" language that Fox uses in *Feathers and Fools* to the language that is characteristic of other texts written for different purposes and audiences. Addressed text form knowledge.

Hereunder, the categories from Contingency that apply to Zahra's pedagogy are addressed.

Contingency: Categories Relevant to Zahra's Teaching

Analysis indicates that Contingency has a Dimension Frequency $n = 8$. From the dimension, the category *Responding to students' ideas* applies to Zahra's pedagogy. The moments of teaching captured by this category appear to be low-level (i.e., straightforward, uncomplicated, qualitatively unsophisticated) examples of this type of practice (qualitatively sophisticated responses are captured by the category *Pedagogical cohesion: Micro-level scaffolding (point of need)*). In the context of *Responding to students' ideas*, Zahra sometimes addressed students' essential-level comprehension. Below, explanations of the applicability of the category are made with reference to content from the lesson.

Responding to students' ideas. *Responding to students' ideas* has a Category Frequency $n = 8$. The moments of teaching to which the category applies occurred during Part 1 and Part 3 of the lesson and are described in Table 32, below.

Table 32

Details of teaching moments (listed chronologically) coded Responding to students' ideas

Time in lesson	Description of moment	Purpose/effect of moment
00:08:55 - 00:11:27	Group discussion, question-answer exchange: "What does it mean by 'base word', STUDENT?"	Accepts/positively appraises student's response: "The 'original word', that's a good way of saying it."
00:11:27 - 00:12:29	Group discussion, question-answer exchange: "What do I mean by plus *-s*, plus *-ed* and plus *-ing*?"	Accepts/positively appraises student's response: "Excellent: past, present or future words."
00:12:33 - 00:13:25	Group discussion, question-answer exchange: "So it's being a – ?"	Confirms that student's response was correct: "A wanna-be vowel."
00:14:04 - 00:14:32	Group discussion, question-answer exchange: "[C]an you tell me what the vowels are, please."	Acknowledges, corrects and extends the student's response: "Yep: *a*, *e*, *i*, *o*, *u*. … Let's try and do them in order. … What are the other...letters? So if we've got vowels, what are all the other words?"
01:14:34 - 01:14:51	Class discussion, question-answer exchange: "Would someone like to share what they were discussing with their partner or the people around them?"	Acknowledges and tacitly rejects a student's response: "K."
01:15:06 - 01:15:11	Continuation of above class discussion, question-answer exchange.	Acknowledges and tacitly accepts a student's response: "Mmm, OK." Addresses essential-level comprehension.
01:15:13 - 01:15:32	Continuation of above class discussion, question-answer exchange.	Accepts/positively appraises and repeats a student's response: "Yes, definitely. … And they all turned out to be fools." Addresses essential-level comprehension.
01:15:32 - 01:16:09	Continuation of above class discussion, question-answer exchange.	Accepts/positively appraises and repeats a student's response: "They did become friends, yeah. … There was a big twist, yeah, definitely a big twist. Definitely." Addresses essential-level comprehension.

Contingency: Summary

From Contingency, the category *Responding to students' ideas* applied to Zahra's pedagogy (n = 8). The responses captured by the category take the form of *acknowledge and evaluate*: Zahra acknowledged and then confirmed, overtly or tacitly, the (in)validity of the

responses that students provided to her questions (or which they volunteered unsolicited). She also addressed students' essential-level comprehension.

Realisation: Summary

Zahra's lesson with her Grade 4/5 students consisted of three parts – Spelling, Pre-reading and discussion, and Reading and discussion – and was shaped by three objectives that were captured by the KQ-E category *Awareness of purpose*:

1. responding to errors observed in students' writing, teach a particular spelling rule to the students in Group 3;
2. responding to gaps observed in students' narrative writing, introduce the focus/purpose of a new teaching-learning sequence; and
3. begin to develop students' essential-level comprehension of *Feathers and Fools,* the text on which the new teaching-learning sequence would be based.

Zahra's pedagogy included opportunities for students to co-construct knowledge through interaction, or 'talk their way to meaning'. Realised through her application of the Turn-and-Talk strategy, these opportunities illuminated the social-constructivist/Vygotskian (1962, 1978) orientation to teaching-learning that appears to underpin Zahra's pedagogy and, as such, were captured by the KQ-E category *Theoretical underpinning of pedagogy*. During the lesson, many of the students interacted with Zahra, too, and these moments of teacher-student dialogue, or contingent/point-of-need micro-level scaffolding, were crucial, also, to the teaching and learning that occurred. Student-student and teacher-student transactions occurred within a series of carefully sequenced task-level micro-level scaffolds that were designed to move students toward achieving the goals of the lesson (above). Moreover, these lesson-level goals were located within the broader framework of a planned program of instruction with its own clearly articulated goals. As such, Part 2 and Part 3 of the lesson

formed the first tier of a macro-level scaffold that was designed to move students toward developing the knowledge and skills necessary to achieve two unit-level outcomes: *We are learning to:*

- *Write an effective orientation*
- *Write effective dialogue the contains speech and actions*

The 'multilayered-ness' of the scaffolding that Zahra orchestrated throughout the lesson is captured by the KQ-E categories *Pedagogical cohesion: Macro-level scaffolding* and *Pedagogical cohesion: Micro-level scaffolding*.

The process of beginning to develop students' essential-level comprehension of *Feathers and Fools* via the sequence of 'designed-in', or task-level, micro-level scaffolds required students to access, marshal, verbalise and, sometimes, record a relevant corpus of background knowledge. This background knowledge concerned the physical characteristics and capabilities of birds, and its application to the content of the lesson was captured by the KQ-E category *External connectivity: Text-to-world connection*. Zahra had selected *Feathers and Fools* for its potential to serve as a model of effective narrative writing and because themes explored in the story resonated with matters pertinent to the social dynamics emerging in the classroom. Her selection of Fox's text was captured by the KQ-E category *Choice of text*.

Other resources were used by Zahra to mediate students' learning. The commercially produced table of base words and derivatives, the collection of silhouettes of birds (developed by Zahra); and the Venn diagram proforma (also developed by Zahra) were used to stimulate and coordinate students' thinking. The application of these resources was captured by the category *Use of instructional materials*.

During the lesson, Zahra and the students applied a shared metalanguage that included terms related to phonetics, morphology and grammar (traditional and functional). Use of technical terminology was captured by the KQ-E category *Use of English terminology*.

Other categories of the KQ-E applied to Zahra's pedagogy: from Foundation, *Adherence to textbook*; from Transformation, *Teacher demonstration*, *Choice of examples* and *Use of instructional procedures*; from Connection, *External connectivity: Text-to-text connection*; and from Contingency, *Responding to students' ideas*. Applicability of the KQ-E was most concentrated during those elements of the lesson that included several tracts of dialogue with students. If teaching and learning is considered a social enterprise, this pattern of applicability is understandable. According to this perspective, these moments of dialogue were the moments of the lesson wherein teaching-learning – or, at least, the bulk of it – actually happened. A social view of learning posits that talk mediates the development of knowledge. Thus, by talking to Zahra, students were able to construct and transform understandings. Many moments of teacher-student dialogue – that is, of teaching and learning – occurred in the lesson, and were captured by the KQ-E category *Pedagogical cohesion: Micro-level scaffolding (point-of-need)*. More than half of the categories of the KQ-E were not applicable to Zahra's pedagogy. The chapter now turns to those aspects of Zahra's pedagogy that application of KQ-E suggested might be the focus of improvement.

Implications

The application of the KQ-E to the pedagogy demonstrated by Zahra illuminated knowledge bases and teaching practices that appeared to positively impact students' English learning. Most obviously, the application of the framework elucidated the multiple layers of micro-level scaffolding that comprised the architecture and interactional fabric of her pedagogy/lesson. The former consisted of a series of deliberately sequenced tasks that, with the aim of enhancing students' literal- and essential-level comprehension, (a) cumulatively

developed a relevant body of semantic knowledge that students could bring to Zahra's read-aloud of *Feathers and Fools* and (b) began the process of engaging students with 'big ideas' that Fox communicates in/through her book. The latter consisted of multiple point-of-need interactions that mediated learning.

Application of the KQ-E revealed, moreover, that Zahra's pedagogy was directed by three purposes. The first of these purposes circumscribed the teaching/learning of the students in Group 3; the other two purposes circumscribed the whole-class teaching/learning that occurred in Part2/Part3 of the lesson. These latter purposes were interconnected, with one contextualising, or situating, the other. The first was captured by the categories *Awareness of purpose* and *Pedagogical cohesion: Macro-level scaffolding*: informed by assessment data, Zahra intended to address gaps in students' narrative writing; moreover, she appeared to have in mind a 'map', or plan, of how this teaching/learning would unfold over the coming lessons, beginning with the teaching/learning that occurred in Part 2/Part 3 of the observed lesson. The content and processes of these parts of the lesson were shaped by a narrower purpose – captured by *Awareness of purpose* – that defined the first 'step of learning', or macro-level scaffold, in Zahra's plan for achieving the unit-level goals.

Informed by the purpose of Part 2/Part 3 of the lesson, and by her knowledge of students' personal backgrounds, Zahra configured and coordinated a pedagogical process that, as the applicability of *External connectivity: Text-to-world connection* indicates, involved drawing on and developing a body of semantic knowledge that would support students' comprehension of *Feathers and Fools*. The frequency of *External connectivity: Text-to-world connection* (n = 15) appears – partly, at least – to be a function of Zahra's sensitivity toward the backgrounds and needs of her students, further intimating the possibility of including a category *Knowledge of students* in the KQ-E. The KQ-E also

highlighted aspects of Zahra's pedagogy that could be the subject of professional conversations that might enhance teaching and learning.

In the preceding analysis, under *Use of English terminology*, reference is made, briefly, to an opportune code that was applied to Zahra's teaching. At 00:14:04 - 00:14:32, Zahra mispronounced *consonants* as 'constonants' after a student referred to them as 'continents': "What are the other…letters?" [STUDENT: "Continents."] "Not 'continents', *constonants*." Zahra used the term three more times, each time pronouncing it correctly. This was the only opportune code applied to Zahra's pedagogy, and its application highlights the need for teachers to be conscious of "model[ling] correct [language] usage" (Hill, 2006, p. 38), particularly when the subject of instruction is spelling, a process whose accuracy relies, partly, on the correct pronunciation of words (Winch et al., 2010).

Although just one opportune coding applies to Zahra's pedagogy, several elements/moments of the lesson could, in fact, be the subject of feedback and reflection that might affect enhance the efficacy of her teaching practice. Issues pertaining to these elements/moments were not explicitly illuminated by the KQ-E because of the confines of the present version of the framework; in the course of analysing the lesson, however – that is, in the course of being 'brought close' to the pedagogy demonstrated by Zahra – those issues were identified and catalogued, and suggestions regarding how they might be addressed were documented. The aspects of Zahra's teaching that could be the focus of pedagogical reasoning, but which the application of the current KQ-E did not explicitly illuminate, are discussed below.

During Part 1 of the lesson, the students in Group 3 were asked to physically rearrange a collection of base words and derivatives and, from there, to identify and describe orthographic patterns and their underpinning rules. One of the students, who Zahra described in post-lesson interview as "streets ahead of everyone else in the class" (Zahra, post-lesson

interview, 20/10/2016, 00:07:19 - 00:07:20), identified and articulated these orthographic patterns and underlying rules – STUDENT: "Because, there is a vowel before the *y*…and before *fry* there's not" – to which Zahra promptly responded, "Right, so there you go, so there's that rule" (00:25:51 - 00:26:29). No further discussion of the patterns/rules occurred, and the likelihood that other students in the group recognised and understood them – by their own intellectual efforts and/or by listening to and comprehending this brief exchange – was questionable. Zahra did not check their understanding. This moment of teaching was coded *Pedagogical cohesion: Micro-level scaffolding*: through dialogue, Zahra *did* support the development of *one* student's understanding of the orthographic patterns/rules; she could, however, have leveraged the moment to support the learning of all the students in the group. Anticipating that at least one of the students would identify and articulate the patterns/rules, Zahra could have then proceeded to support the learning of all the students in the group by engaging them in a deliberately structured dialogue that was complemented by the application of pre-prepared resources, as follows:

- Capture the attention of all the students in the group and ask the student to describe the patterns/rules that he identified.
- Repeat or, if necessary, rephrase the student's description of the patterns/rules and write/display the rules on the easel or IWB:

When the word ends with a vowel + *y*, leave the *y* and add *-ed/-s*

When the word ends with a consonant + *y*, change the *y* to an *i* and add *-ed/-es*

- Ask the students to physically isolate *play*, *spray* and *stay* + their derivatives from the ordered collection of words and check the first rule: "OK, what I want you to do is remove *play*, *spray* and *stay* and their derivatives from the collection of words, just like I've done here on the IWB."

Base word	+(ie)s	+ing	+(i)ed
play	plays	playing	played
spray	sprays	spraying	sprayed
stay	stays	staying	stayed

"Now, let's check the first rule. The word *play* ends with a vowel, *a* [pointing to the *a*] and a *y* [pointing to the *y*]. The rule states that [ask a student to read the rule]. Let's check: when we change *play* to *plays*, do we just add -*s*? [Yes.] When we change *play* to *played*, do we just add -*ed*? [Yes.] OK, the rule works. Let's check it against *spray* and *stay*…"

- Ask the students to isolate *cry*, *fry* and *spy* + their derivatives and check the second rule.
- Check for understanding: present a word to the group (e.g., on a flash card: *enjoy*, *journey*; *baby*, *fry*); ask the students to turn and talk about which of the two rules applies to the word; select a pair to share ("Which rule applies?") and check that other students agree; ask a student to spell, and then write, the word when -*s* is added and when -*ed* is added. Repeat with other words.
- Display the rules and examples of their application for later reference.

Zahra's direction to the students to "[s]ee if you can find some patterns or some discovery or findings about those words" (00:21:46 - 00:22:14) was consistent with recommended approaches to spelling instruction: "guide students to explore spelling generalisations for adding…endings to words. When adding suffixes, for example, we might have to…change the -*y* of a base word to -*i* before adding a suffix such as -*es* (story >> stories)" (Department of Education, 2016, p. 81). However, restricted by the scope of the

lesson plan from *Words Their Way* (see the section **Adherence to textbook**, above), she failed to leverage the opportunity presented by the student who recognised the orthographic patterns and their underlying rules, meaning the other students developed, only, partial knowledge of those patterns/rules. Anticipating that one of the students in the group would promptly identify these patterns/rules, Zahra could have been prepared to capture the potential of that moment by deviating from the stipulated lesson plan: by switching from 'guiding students to explore' to explicit instruction complemented by the application of pre-developed resources, she may have better supported the learning of her students. As Emmitt, Zbaracki, Komesaroff and Pollock (2010) have noted, "[w]e need to…*show them* [emphasis added], not tell them" (p. 245). Moreover, Rowland et al. (2009) have noted that teachers should "make use of [their] own resources and teaching strategies rather than [adhere] to textbook…plans" (p. 35).

Zahra's responses to students' predictions about, and, later, to their comments regarding, *Feathers and Fools* could also be the focus of collegial input. Prior to reading the story to the class, Zahra asked the students, "What do you think this book might be about? … What's…the author's message trying to be? What are they getting across?" (00:34:25 - 00:34:55). After reading the book to the class, Zahra asked the students to "[t]urn and talk to the people around you about what you've noticed about the story" (01:13:22 - 01:13:26). She wanted the students to begin to identify and articulate the 'big ideas' the story communicates – ideas like:

- superficial differences between people may cause misunderstanding and resentment, which can develop into fear, suspicion and loathing;
- animosity generates conflict; and
- conflict is futile: "hatred [gets] us nowhere…and…war solves nothing" (Fox, 2017b, n.p.).

These ideas resonated with interpersonal issues that were surfacing among some of the students in the class.

To begin to develop their essential-level comprehension of *Feathers and Fools*, the students needed to "reach judgements that [were] not directly stated in the text" (Temple, Ogle, Crawford & Freppon, 2011, p. 197) by "tak[ing] information from [the] text and add[ing] their own ideas to make inferences" (Annandale et al., 2004, p. 117). The process of recognising and developing an understanding of the ideas implied in/by a text has been captured by Harvey and Goudvis (2007): "BK + TC = I" (p. 141), background knowledge + textual clue = inference; or, as Cameron (2009) stated, "[b]y using the text and our own prior knowledge, we can interpret what we think the author is really trying to say" (p. 100).

Ozgungor and Guthrie (2004) have argued that "elaborative interrogation" (p. 437), a "higher-order questioning strategy that uses 'why' questions (e.g., 'Why would that fact be true?')…to encourage students to connect new information in their own richly developed knowledge base" (Willoughby & Wood, 1994, p. 139; Pressley et al., 1992), should be part of the inference-making process. Thus, Marzano (2010, p. 80-81) has developed four questions that teachers might pose to engage their students in the process of elaborative interrogation:

- *What is your inference?* (makes the student aware that s/he has made an inference)
- *What information did you use to make this inference?* (requires the student to identify/articulate the premise on which the inference is based)
- *How good was your thinking?* (requires the student to examine the validity of the premise on which the inference is based)
- *Do you need to change your thinking?* (asks the student to consider possible alternatives; the aim is not to invalidate the student's initial thinking but, rather, to develop the habit of revising thinking as new information is presented)

Zahra's responses to students' predictions about, and, later, to their post-reading comments regarding, *Feathers and Fools* did not feature this kind of questioning. Rather, as per Table 29 and Table 32, her responses were limited to rudimentary acknowledgement of students' ideas – "Good observations", "Mmm, OK" – or, at best, leading comments and questions that were intended to attune students' attention to the themes addressed in/by the story. Students made insightful predictions and comments about *Feathers and Fools*, and these could have been the catalyst for rich dialogue and rigorous thinking, with Zahra prompting students to articulate, explain, test and reshape their ideas. So that she can more effectively harness and leverage opportunities presented when students make predictions about, or discuss the ideational content of, a text, Zahra could be introduced to and apply Marzano's (2010) four questions.

Summary: The *Knowledge Quartet – English* and Zahra's Pedagogy-of-Subject-English

The pedagogy that Zahra, a teacher of 15 years' experience, applied during a lesson with her Year (Grade) 4/5 primary school students was described and analysed. The lesson consisted of three parts – Spelling, Pre-reading and discussion, and Reading and discussion – and was shaped by three objectives that were captured by the category *Awareness of purpose*. The bulk of the lesson was devoted to developing students' literal- and appreciative-level comprehension, and text form knowledge, of the picture book *Feathers and Fools* by Mem Fox (author) and Nicholas Wilton (illustrator). To achieve this, Zahra orchestrated a series of tasks, as per Table 23 and Table 24.

In relation to Research Question 1, *To what extent is the content of the KQ applicable to the pedagogy of subject English?*, analysis revealed that eight categories from the framework developed by Rowland and colleagues were applicable to Zahra's pedagogy:

- from Foundation, *Theoretical underpinning of pedagogy*; *Awareness of purpose*; *Use of English terminology*; and *Adherence to textbook*
- from Transformation, *Teacher demonstration*; *Use of instructional materials*; and *Choice of examples*
- from Contingency, *Responding to students' ideas*

Six of the categories that emerged in the course of this research, and which have been added to the original KQ to form the KQ-E, applied to Zahra's pedagogy:

- from Foundation, *Choice of text*
- from Transformation, *Use of instructional procedures*
- from Connection, *Pedagogical cohesion: Macro-level scaffolding*; *Pedagogical cohesion: Micro-level scaffolding*; *External connectivity: Text-to-world connection*; and *External connectivity: Text-to-text connection*

These categories, indicated in the list below by an asterisk (*), capture pedagogical activity that appears to be characteristic of the pedagogy of subject English.

Fourteen categories were not applicable to Zahra's pedagogy: from Foundation, *Identifying pupil errors*; *Overt display of subject knowledge*; and *Concentration on procedures*; from Transformation, *Choice of representations*; from Connection, *Making connections between procedures*; *Making connections between concepts*; *Anticipation of complexity*; *Recognition of conceptual appropriateness*; *Decisions about sequencing*; *Connections within text*; and *External connectivity: Text-to-self connections*; and from Contingency, *Deviation from lesson agenda*; *Teacher insight*; and *Responding to the (un)availability of tools and resources*

Analysis revealed that Connection (Dimension Frequency $n = 62$) was the dimension of the KQ-E that most applied to Zahra's teaching, followed by Foundation (Dimension

Frequency *n* = 39; 38 actual, 1 opportune), Contingency (Dimension Frequency *n* = 8) and Transformation (Dimension Frequency *n* = 7). Ranked according to frequency of applicability, the following 14 categories pertained to Zahra's pedagogy:

- *Pedagogical cohesion: Micro-level scaffolding* (*n* = 32; 4 task-level, 28 point-of-need)*
- *Awareness of purpose* (*n* = 22)
- *External connectivity: Text-to-world connection* (*n* = 15)*
- *Pedagogical cohesion: Macro-level scaffolding* (*n* = 13)*
- *Use of English terminology* (*n* = 11; 10 actual, 1 opportune)
- *Responding to students' ideas* (*n* = 8)
- *Theoretical underpinning of pedagogy* (*n* = 4)
- *Use of instructional materials* (*n* = 4)
- *External connectivity: Text-to-text connection* (*n* = 2)*
- *Adherence to textbook* (*n* = 1)
- *Choice of text* (*n* = 1)*
- *Teacher demonstration* (*n* =1)
- *Choice of examples* (*n* = 1)
- *Use of instructional procedures* (*n* = 1)*

In relation to Research Question 2, *What do the categories of the KQ, and any new categories, 'look like' in the context of the pedagogy of subject English? What do they capture?*, the category *Theoretical underpinning of pedagogy*, which applies to those moments of teaching wherein students were enabled to co-construct knowledge through interaction, illuminates the social-constructivist/Vygotskian (1962, 1978) notions of learning that appear to inform Zahra's pedagogy. The categories *Pedagogical cohesion: Macro-level*

scaffolding and *Pedagogical cohesion: Micro-level scaffolding* capture the multiple layers of scaffolding that Zahra coordinated to support students' learning. The process of developing students' literal- and appreciative-level comprehension, and text form knowledge, of *Feathers and Fools* involved the provision of comments and questions that prompted students to make connections between the content of the text and their own knowledge and experiences of the world, and between the structure and language features of the text and other texts they had written. These moments of teaching were captured by the categories *External connectivity: Text-to-world connection*, *External connectivity: Text-to-text connection* and *Responding to students' ideas*. The relevance of these categories – particularly *External connectivity: Text-to-world connection*, which had a Category Frequency $n = 15$ – appears to be linked to purpose: the bulk of Zahra's lesson was devoted to detailed reading of *Feathers and Fools*; as such, these comprehension-related categories of pedagogy figured strongly.

Zahra selected *Feathers and Fools* for its potential to serve as a model of effective narrative writing and because themes explored in the story resonated with matters pertinent to the social dynamics emerging in the classroom. Her selection of the text was captured by the KQ-E category *Choice of text*. The category *Adherence to textbook* captured Zahra's use, in Part 1 of the lesson, of a lesson plan from a book from the *Words Their Way* collection of resources. This is the only case of that category relating to, or being realised in, the whole of the body of pedagogy-of-subject-English demonstrated by Grace, Zahra, Christopher and Catherine.

In relation to Research Question 3, *What potential might a KQ for subject English have, or demonstrate, to enhance the pedagogy of teachers of subject English?*, the application of the KQ-E to the pedagogy demonstrated by Zahra illuminated categories of teaching activity that intersect and inform one another, and which, thereby, give shape and substance to a pedagogical context that appears to positively impact students' English

learning. Directed, firstly, by unit-level goals that reflected the needs of students and, secondly, by specific lesson-level intentions, the arrangement of a series of tasks – and the verbal tapestries generated within those tasks – supported the development of target skills and understandings. The KQ-E intimated, also, Zahra's sensitivity toward the personal backgrounds of her students – further indicating the potential for a category *Knowledge of students* to be added to the KQ-E. Two elements/moments of Zahra's teaching were identified as possible foci for collegial dialogue that might improve aspects of her practice. In both of these elements/moments, Zahra failed to harness and leverage the potential for rigorous teaching and learning that was presented by students' comments. Thus, suggestions were made regarding how Zahra might respond to such moments in the future, including through the application of four questions that might deepen students' comprehension of text.

The chapter turns, now, to analysis of the pedagogy-of-subject-English demonstrated by Christopher in lessons with his Year (Grade) 8 high school students. The lessons, described below, were conducted midway through the school year.

Christopher:
Year (Grade) 8 High School Subject English Lesson

In the following sections of the chapter, the pedagogy demonstrated by Christopher across two lessons is described and analysed. As per the descriptive synopses below, a considerable portion of each 70-minute lesson was devoted to viewing documentary film. During these periods of viewing, Christopher did not initiate or engage in any pedagogical activity. Thus, lengthy tracts of each video-recording contained material irrelevant to the project. Therefore, to analyse a body of data equivalent in volume to the body of data pertaining to each of the other three teachers – Grace, Zahra and Catherine – the pedagogy demonstrated by Christopher across two lessons, each part of a unit of work on survivors and survival, has been selected.

Descriptive Synopsis of Lesson of 27th July

Christopher has 22 students in his mixed-ability Grade 8 English class, none of whom were absent during observation. None are identified as 'additional needs' (e.g., English as an Additional Language, Severe Disability Register). The students were regarded by Christopher as being, generally, academically capable. The lesson began routinely: as the students entered the classroom, they took their seats and began reading the novels or magazines they had brought with them. Some were unsettled after the lunch break and needed to be reminded of expectations: "So we should all be reading, please. Or like STUDENT'S doing, answering the questions from yesterday. … So we should all be reading now, please" (00:00:10 - 00:00:51). A plan of the lesson had been written on the whiteboard by Christopher:

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1. *Silent reading*
2. *Watch 'Miracle in the Storm'*

3. *Answer questions regarding this doco*
4. *Bus duty*

As the students settled into silent reading, Christopher also wrote the learning intentions for the lesson on the whiteboard:

WALT: Analyse another survival story – noting the differences to the story we watched yesterday
WILF: Students to consider the qualities displayed in this survival story – are they similar or different?
TIB: We will be completing an assignment on these stories where you will need to write a character profile

Silent reading lasted 10 minutes, after which Christopher addressed the class. He reminded the students of the content of the previous day's English lesson and described the focus of the current lesson: "Rightio, so hopefully…you have gone home last night and finished off those *Miracle in the Desert* questions so that you're all ready to go. … So today…we [are] going to be watching…*Miracle in the Jungle*. Now what I'd like us to do and to think about is to start comparing the qualities that are displayed by the survivors. … So, does everybody understand what we're doing? So could we please have our exercise books out, taking a few notes, so, obviously…so clearly basics like who, what, where, when and why and how, jotting down some details so that we can get some questions answers at the end" (00:09:26 - 00:14:08).

For the next 40 minutes, the students watched *Miracle in the Jungle* (Douglas, 2010), one of three documentaries in the *Miracle* series that has aired on Australian television in recent years. The *Miracle* series is described as "a series of epic tales of survival. The environments are extreme, with 'mother nature' at her most unforgiving"

(http://www.abc.net.au/tv/programs/miracles/). *Miracle in the Jungle* is about "Australian backpacker Hayden Adcock [who] went missing in the wild jungle of Laos just as a huge tropical storm was brewing. Missing for 11 days, an amazing chain of events led to Hayden's miraculous survival" (http://www.abc.net.au/tv/programs/miracles/).

At 00:58:41, Christopher paused the recording and addressed the class: "So, if we just do a really quick comparison with the documentary that we saw yesterday and Monday." For the next few minutes, Christopher coordinated a class discussion in which students compared and contrasted the events related in *Miracle in the Jungle* with/to those related in another documentary from the *Miracle* series, *Miracle in the Desert* (Douglas, Fulton & Peedom, 2010), in which "Alaskan fireman Robert Bogucki, missing in WA's Great Sandy Desert, survived 43 days before a TV news helicopter found him 400km from his departure point in one of the world's most inhospitable wildernesses" (http://www.abc.net.au/tv/programs/miracles/). The students recognised that:

- Adcock and Bogucki went "without eating for…days" and "hardly both slept" (00:59:21 - 00:59:32)
- "There's a much higher risk of disease in the jungle" (00:59:38 - 00:59:51)
- "[T]here's two aspects to survival: there's the psychological stuff…and there's also the physical stuff as well. And often…it's that psychological strength…that's more important" (01:00:06 - 01:03:01)
- an "element of luck" led to Adcock and Bogucki being rescued (01:00:06 - 01:03:01)

Christopher then directed the students to "have a look at questions two and four" from the list of comprehension questions (Appendix M) that were displayed on the large television screen at the front of the classroom, and to write answers to those questions in their exercise books:

2. *What kind of preparation and planning would you make if you were in Hayden's situation?*
4. *What are some of the dangers in the jungle? Write a list.*

In the final minutes of the lesson, Christopher circulated the classroom, keeping students on-task and providing support as requested (e.g., with the spelling of words). Christopher concluded the lesson by telling that class that "in [next] Monday's lesson, we will finish off this video and we'll answer these questions in detail" (01:05:59 - 01:06:13). The students then tidied the classroom and were dismissed after the bell sounded.

Descriptive Synopsis of Lesson of 3rd August

This lesson, also, began routinely: upon entering the classroom, students took their seats and started reading the novels or magazines they had brought with them. The learning intentions had been written on the whiteboard:

WALT: Analyse survival stories and the qualities of survivors

WILF: Thinking of words to describe the survivors we have seen so far

TIB: You will need these words when writing character profiles and newspaper articles

Also, Christopher had written a plan of the lesson on the whiteboard:

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1. *Silent reading*
2. *Brainstorm words that describe the survivors*
3. *Watch the start of* Miracle in the Storm
4. *Bus duty*

After silent reading, Christopher directed the students' attention to point 2 and asked them to "take about a minute…or two, just to write down as many words as you can think of

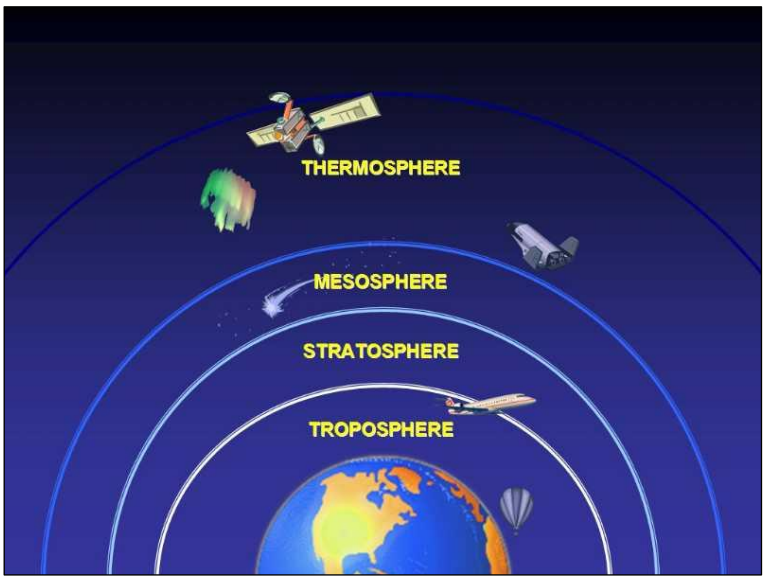
that describe the survivors that we've learned about so far" adding that "these words will be important for you when we're writing our character profiles and our newspaper articles next week" (00:00:00 - 00:01:05). Students were then called on to share their words, which Christopher recorded on the board: *courage, relentlessness, determined, persistent/resistant, resourceful, intelligent, strong - mind, bravery, driven, tragedy, unprepared, healthy, fortunate/unfortunate, good luck, confident, optimistic, quick-thinking*.

The class then watched 30 minutes of the "third and the final" (00:08:44 - 00:09:20) documentary in the *Miracle* series, *Miracle in the Storm* (Fulton & Peedom, 2010), which tells "[t]he amazing true story of a German paraglider [Ewa Wiśnierska] who miraculously survived being sucked into a massive thunderstorm that thrust her 10,000 metres above the north-western plains of New South Wales" (http://www.abc.net.au/tv/programs/miracles/). Students were instructed to "look out for examples of all these words [i.e., the student-generated list of adjectives, above] happening. So take down and note if you see something where she is like relentless or if she never gives up or when she shows resourcefulness" (00:08:44 - 00:09:20).

After 30 minutes of viewing, Christopher stopped the recording and addressed a number of questions pertaining to students' literal-level comprehension of the events recounted in *Miracle in the Storm* before distributing a worksheet (Appendix N) and saying, "OK, Grade 8. So the focus of our next 10 minutes or so are the first three questions" (00:44:29 - 00:46:36):

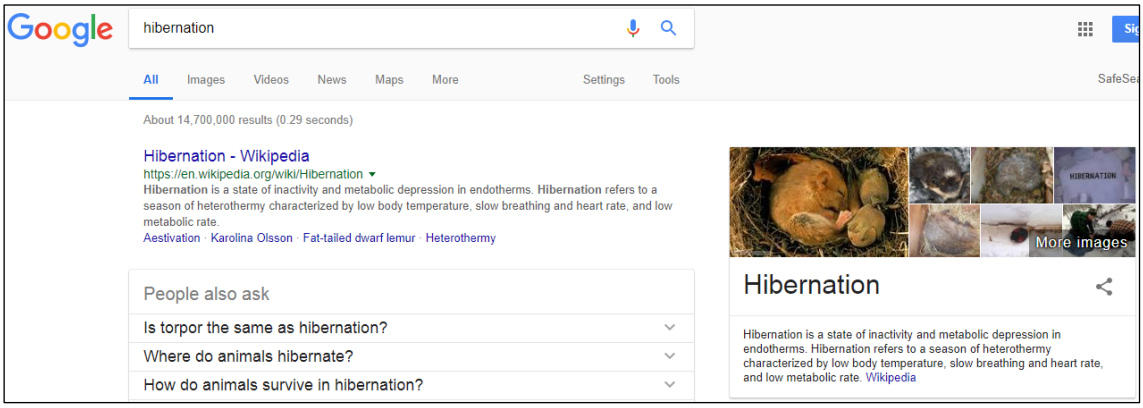
1. *We are informed that Ewa Wiśnierska entered the 'death zone'. What is the death zone, where is it and what happens to the human body when you enter it?*
2. *Explain the meaning of 'hibernation'.*
3. *How did falling into a state of hibernation help to save Ewa's life?*

For the final 10 minutes of the lesson, Christopher circulated the classroom, keeping students on-task and providing support as needed. Much of his time and attention was given to responding to comments and questions from a student who challenged the content of the documentary: the student struggled to believe that a person could survive at an altitude of 10,000 metres without a supply of oxygen and/or protective clothing: "No, but seriously, think about it: seven thousand you're supposed to die. How did she make it *ten kilometres up* without dying?" (00:53:32 - 00:53:42). As another student had previously commented, however, "[t]hat's why it's called a miracle" (00:42:10 - 00:44:07). To support students' understanding of the events related in *Miracle in the Storm*, Christopher displayed a diagram of the structure of Earth's atmosphere (see below, which Christopher found by googling 'structure of Earth's atmosphere') on the large television screen at the front of the classroom. A student approach the screen/diagram and pointed to the altitude reached by Wiśnierska: "Right here" (pointing the border of the troposphere-stratosphere):



Christopher also googled 'hibernation' and displayed the definition provided on Wikipedia (below) on the television screen. As the definition of *hibernation* in the classroom

dictionaries lacked detail, he instructed students to "update [their definitions of] 'hibernation' to reflect that, please" (00:57:16 - 00:57:20).



At 00:59:33 - 00:59:38, Christopher told the class that "[o]nce you've done 'hibernation' or written down something like on the board you need to pack up and be sitting quietly, please." The bell sounded and students were dismissed shortly afterward.

Analysis of Lessons

The following analysis of Christopher's pedagogy-of-subject-English is presented in four sections. In the first section, *Analytical synopsis of lessons*, the preceding descriptive synopses are complemented by two tables that illuminate the structure of Christopher's lessons and, also, specify the dimensions and categories of the KQ-E that apply to the various elements and moments of his teaching. The second section, *Realisation* describes, in detail, *how* these categories of the KQ-E apply to, or were actualised through, Christopher's pedagogy. The third section, *Implications* describes those aspects of Christopher's pedagogy that, having been identified through the application of the KQ-E, might be the focus of improvement. In the fourth and final section, *Summary*, the analysis is reviewed and salient findings pertaining to the research questions are presented.

Analytical Synopses of Lessons

As per Table 33 and Table 34 (below), Christopher's lessons were similarly structured; each consisted of three parts: (1) Introduction; (2) Viewing; and (3) Post-viewing discussion, questions and answers. Part 1 of the lesson of 27th July was comprised of two elements, SILENT READING and PREAMBLE; Part 2 was comprised of a single element, VIEWING; and Part 3 was comprised of two elements, CLASS DISCUSSION and *MIRACLE IN THE JUNGLE* QUESTIONS AND ACTIVITIES SHEET. Part 1 of the lesson of 3rd August was comprised of three elements, SILENT READING, PREAMBLE and BRAINSTORMING AND SHARING; Part 2 was comprised of two elements, PREAMBLE and VIEWING; and Part 3 was comprised of two elements, CLASS DISCUSSION and *MIRACLE IN THE STORM* QUESTIONS AND ACTIVITIES SHEET. Each element of each lesson was characterised by a particular type of teaching, or pedagogical context (e.g., directive; shared; monitor, assess and direct); and each element was comprised of at least one, often more, moments of teaching (directions, explanations, question-answer exchanges) – the units of analysis. The boundaries of each of the 60 moments of teaching (lesson of 27th July $n = 20$; lesson of 3rd August $n = 40$) that comprised Christopher's pedagogy were defined by the natural flow of the talk that occurred during the lesson. The content of each moment was the subject of analysis, examined for conditions that triggered the applicability of categories of the KQ-E. Table 33 and Table 34 show which of the dimensions and categories of the KQ-E apply to each of the 60 moments of teaching. For some, multiple dimensions and/or categories apply (e.g., in Table 33, the moment 'Addresses class' that occurs in the element PREAMBLE at the end of Part 1: Introduction is co-coded *Awareness of purpose*, *Choice of text*, *Pedagogical cohesion: Macro-level scaffolding*, *Pedagogical cohesion: Micro-level scaffolding* and *Responding to students' ideas*).

As per Table 33 (below), the KQ-E applies seven times during Part 1 (Introduction) of the lesson of 27th July. During this part of the lesson, Christopher directed the students to

"be reading now, please" (00:00:10 - 00:00:51) and, after silent reading, reminded the students of the content of the previous lesson and described the focus of the current lesson: "Rightio, so hopefully…you have gone home last night and finished off those *Miracle in the Desert* questions so that all ready to go. … So today…we [are] going to be watching…*Miracle in the Jungle*. Now what I'd like us to do and to think about is to start comparing the qualities that are displayed by the survivors" (00:09:26 - 00:14:08). Three dimensions and five categories apply to Christopher's teaching in this part of the lesson:

- from Foundation, *Awareness of purpose* (*n* = 2) and *Choice of text* (*n* = 1)
- from Connection, *Pedagogical cohesion: Macro-level scaffolding* (*n* = 3) and *Pedagogical cohesion: Micro-level scaffolding* (PoN, *n* = 1)
- from Contingency, *Responding to students' ideas* (*n* = 1)

During Part 2 (Viewing) of the lesson, Christopher watched *Miracle in the Jungle* alongside the students. He did not initiate or engage in any pedagogical activity during this 40+ minute period. As such, the KQ-E does not apply to Part 2 of the lesson.

In Part 3 of the lesson – Post-viewing discussion; questions and answers – the KQ-E applies 18 times. During this part of the lesson, Christopher first coordinated a class discussion in which students compared and contrasted the events related in *Miracle in the Jungle* with/to those related in *Miracle in the Desert*. He then directed the students to "have a look at questions two and four" from the list of comprehension questions that were displayed on the television screen at the front of the classroom, and to write answers to these questions in their exercise books. Christopher circulated the classroom, keeping students on-task and providing support as needed. Four dimensions and five categories apply to Christopher's teaching in this part of the lesson:

- from Foundation, *Awareness of purpose* (*n* = 3)

- from Transformation, *Use of instructional materials* (*n* = 1)
- from Connection, *Pedagogical cohesion: Macro-level scaffolding* (*n* = 2); *Pedagogical cohesion: Micro-level scaffolding* (PoN, *n* = 1); and *External connectivity: Text-to-text connection* (*n* = 3)
- from Contingency, *Responding to students' ideas* (*n* = 8)

Application of the KQ-E to the pedagogy demonstrated by Christopher in his lesson of 27th July revealed patterns of category relevance. Compared to frequency of applicability for Grace, Zahra and Catherine's lessons, frequency of applicability for Christopher's lesson of 27th July was sparse. Amid this sparseness, however, patterns of applicability are discernible. First, applicability of the KQ-E is clustered on those moments of teaching that, occurring within a shared pedagogical context, involve pedagogically substantive dialogue. This same pattern of applicability, or clustering, was observed in Grace, Zahra and Catherine's lessons. In Christopher's lesson, three dimensions and five categories apply to the moment 'Addresses class' that occurs in the element PREAMBLE at the end of Part 1 of the lesson: from Foundation, *Awareness of purpose* and *Choice of text*; from Connection, *Pedagogical cohesion: Macro-level scaffolding* and *Pedagogical cohesion: Micro-level scaffolding*; and from Contingency, *Responding to students' ideas*. Similarly, two dimensions and four categories apply to the moment 'Addresses class' at the beginning of the element CLASS DISCUSSION in Part 3 of the lesson: from Foundation, *Awareness of purpose*; and from Connection, *Pedagogical cohesion: Macro-level scaffolding*; *Pedagogical cohesion: Micro-level scaffolding*; and *External connectivity: Text-to-text connection*.

The first of these moments of teaching, 'Addresses class' in the element PREAMBLE, involved Christopher coordinating a stretch of discourse (from 00:09:26 to 00:14:08) in which he:

a) connected the content of the current lesson to the content of the previous lesson: "So we've talked about the…way that Robert Bogucki…never gave up and the way that he was resourceful and the amazing fact that he was out there for 12 days without any water";
b) specified the purpose of the current lesson: "So, we're going to consider the two different stories";
c) provided the title of the documentary the students would shortly watch: "So, we're going to watch *Miracle in the jungle*";
d) developed, briefly, the field of knowledge that would support students' viewing, thinking and task completion: "[C]learly basics like who, what, when, where, why and how"; and
e) responded, cursorily, to comments and questions from students: "You think he'll survive?" [STUDENT: "'Cause it's raining, so."] "He'll have plenty of water." [STUDENT: "He won't have shelter, he might get hypothermia."]

The applicability of multiple dimensions/categories of the KQ-E to this moment of teaching intimates the relatively substantive nature of the pedagogical activity that is occurring. This moment is, in fact, pedagogically critical, being the point of the lesson wherein upcoming content/learning is contextualised, explained and shaped. This multifaceted pedagogical imperative was expressed in Christopher's discourse and, consequently, captured by multiple dimensions and categories of the KQ-E.

The second of these moments of teaching, 'Addresses class' at the beginning of the element CLASS DISCUSSION, involved Christopher coordinating a stretch of dialogue in which he:

a) specified the purpose of the remainder of the lesson: "So, if we just do a really quick comparison with the documentary that we saw yesterday and Monday" (00:58:41 - 00:59:21); and

b) simultaneously reconnected the content of the current lesson to the content of the previous lesson *and* provided a text-to-text comparison to prompt students' thinking: "Clearly, in the first one, the guy's lost in the desert and this guy's lost in the jungle" (00:58:41 - 00:59:21).

This moment, too, is pedagogically critical, being the point in the lesson wherein the final 10 minutes of content/learning is defined, contextualised and shaped. This multifaceted pedagogical imperative was expressed in Christopher's discourse and, consequently, captured by multiple dimensions and categories of the KQ-E.

Another pattern is discernible re the applicability of the KQ-E to the pedagogy demonstrated by Christopher: aside from *Choice of text,* only one category from the dimension Foundation, *Awareness of purpose,* is relevant. This narrowness of applicability is unique to Christopher's teaching: of the pedagogy demonstrated by Grace, Zahra and Catherine, more categories from that dimension apply, including *Theoretical underpinning of pedagogy*. The nil applicability of *Theoretical underpinning of pedagogy* to the pedagogy demonstrated by Christopher invites, therefore, consideration of his "knowledge of [English] pedagogy", a "key component" of the body of theoretical knowledge that "inform[s] pedagogical choices and strategies" (Rowland et al., 2009, p. 30). The nil applicability of the category may, for example, intimate his comparative lack of experience in the classroom and, therefore, limited opportunity to have developed a robust body of experience-based knowledge for English teaching, or 'practical theory of [English] teaching' (Churchill et al., 2011, p. 465).

Table 33

Structure of Christopher's lesson of 27th July: Parts, elements, pedagogical contexts, moments of teaching and applicable dimensions and categories of the KQ-E

Part of lesson	Element	Pedagogical context	Discursive moment (unit of analysis)	Applicable dimension(s) and category(ies) from the KQ-E			
				Foun	Tran	Conn	Cont
Part 1: Introduction (00:00:00 - 00:09:26)	Silent reading (00:00:00 - 00:09:26)	Directive	Addresses class			PC:Mac	
			Addresses students	AoP		PC:Mac	
			Addresses a student	None applicable			
	Preamble (00:09:26 - 00:14:08)	Shared	Addresses class	AoP, CoT		PC:Mac, PC:Mic(PoN)	RtSI
Part 2: Viewing	Students watch *Miracle in the Jungle* (00:15:07 - 00:58:33)						
Part 3: Post-viewing discussion; questions and answers (00:58:41 - 01:09:10)	Class discussion (00:58:41 - 01:03:01)	Shared	Sharing and discussion: Addresses class	AoP		PC:Mac, PC:Mic(PoN), EC:TtTC	
			Sharing and discussion: Question-answer exchange				RtSI
			Sharing and discussion: Question-answer exchange				RtSI
			Sharing and discussion: Question-answer exchange			EC:TtTC	RtSI
			Sharing and discussion: Question-answer exchange			EC:TtTC	RtSI
	Miracle in the Jungle questions and activities sheet (01:03:03 - 01:09:10)	Monitor, assess and direct	Addresses class	AoP	UoIM		
			Addresses class	AoP			RtSI
			Addresses student	None applicable			
			Addresses student	None applicable			
			Addresses student				RtSI
			Addresses student				RtSI
			Addresses class			PC:Mac	
			Addresses student	None applicable			
			Addresses student	None applicable			
			Addresses class	None applicable			
			Addresses student				RtSI

The analytical synopsis of the lesson of 3rd August follows.

As per Table 34 (below), the KQ-E applies seven times during Part 1 (Introduction) of the lesson of 3rd August. During the element PREAMBLE, Christopher directed the students to "take about a minute…or two…to write down as many words as you can think of that describe the survivors that we've learned about so far" (00:00:00 - 00:01:05). Students were then called on – during the latter part of the element BRAINSTORMING AND SHARING – to share their words, which Christopher recorded on the board. Three dimensions and four categories apply to Christopher's teaching during this part of the lesson:

- from Foundation, *Awareness of purpose* (*n* = 2)
- from Connection, *Pedagogical cohesion: Macro-level scaffolding* (*n* = 3) and *Pedagogical cohesion: Micro-level scaffolding* (*n* = 2; 1 task-level, 1 point-of-need)
- from Contingency, *Responding to students' ideas* (*n* = 1)

The KQ-E applies three times during Part 2 (Viewing) of the lesson. During the element PREAMBLE (00:08:44 - 00:10:36), Christopher directed the students to "look out for examples of all these words [i.e., the student-generated list of adjectives] happening. So take down and note if you see something where she is like relentless or if she never gives up or when she shows resourcefulness" (00:08:44 - 00:09:20). Here, two dimensions and three categories apply to Christopher's teaching:

- from Foundation, *Awareness of purpose* (*n* = 1) and *Choice of text* (*n* = 1)
- from Connection, *Pedagogical cohesion: Micro-level scaffolding* (PoN, *n* = 1)

For the remainder of Part 2 of the lesson, Christopher watched *Miracle in the Jungle* alongside the students. During this 30+ minute period, he did not initiate or engage in any pedagogical activity. As such, the KQ-E does not apply to the later portion of Part 2 of the lesson.

The KQ-E applies 21 times during Part 3 (Post-viewing discussion; questions and answers) of the lesson. Comprised of two elements, CLASS DISCUSSION and *MIRACLE IN THE STORM* QUESTIONS AND ACTIVITIES SHEET, the closing minutes of the lesson involved Christopher (1) addressing a number of questions relating to students' literal-level comprehension of the events recounted in *Miracle in the Storm* and (2) circulating the classroom and supporting students to respond, in writing, to "the first three questions" (00:44:29 - 00:46:36) on the questions and activities sheet (Appendix N). Four dimensions and seven categories apply to Christopher's teaching during this part of the lesson:

- from Foundation, *Awareness of purpose* (*n* = 2)
- from Transformation, *Choice of representations* (*n* = 1) and *Use of instructional materials* (*n* = 2)
- from Connection, *Pedagogical cohesion: Micro-level scaffolding* (*n* = 8; 1 task-level, 7 point-of-need) *and External connectivity: Text-to-text connection* (*n* = 2)
- from Contingency, *Responding to students' ideas* (*n* = 5) and *Responding to the (un)availability of tools and resources* (*n* = 2)

As Table 34 illustrates, the lesson of 3rd August is characterised, also, by sparseness of applicability of the KQ-E to the pedagogy demonstrated by Christopher. Amid this sparseness, however, a moment 'Addresses student' in the element *MIRACLE IN THE STORM* QUESTIONS AND ACTIVITIES SHEET in Part 3 of the lesson is conspicuous for the cluster of dimensions/categories that apply to it: from Transformation, *Choice of representations*; and from Contingency, *Responding to students' ideas* and *Responding to the (un)availability of tools and resources*. The applicability of multiple dimensions/categories of the KQ-E to this moment of teaching intimates the relatively substantive nature of the pedagogical activity that is occurring. Seeking to provide a comprehensive response to the first question on the *Miracle in the Storm* questions and activities sheet, a student asked Christopher, "Is the

stratosphere the last layer [of the atmosphere]?" Christopher replied, "I think so. And then do you go into the darkness? I'm not up to speed with my science" (00:50:58 - 00:51:56). Wanting certainty, the student asked Christopher to check: "You've got a computer, could you please look it up?" Christopher located a simple diagram of the structure of Earth's atmosphere and displayed it on the television screen. During this 1-minute-long exchange, Christopher:

a) responded, tentatively, to the student's suggestion – posed as a question – that "the stratosphere is the last layer [of the atmosphere]";
b) at the student's request, responded to the availability of a teaching resource (his computer, the World Wide Web, the television screen); and
c) selected and displayed a diagram of the Earth's atmosphere that provided the information requested by the student and which, moreover, added meaning to the details related in the documentary.

The relative complexity of this moment of teaching was captured by the KQ-E: the applicability of multiple dimensions/categories illuminates the scope of pedagogical activity demonstrated or 'done' by Christopher during this brief period.

A cluster of dimensions/categories apply to a moment 'Addresses students' that occurred shortly afterward, at 00:56:36 - 00:57:03: from Connection, *Pedagogical cohesion: Micro-level scaffolding*; and from Contingency, *Responding to students' ideas* and *Responding to the (un)availability of tools and resources*. While circulating the classroom and monitoring students' learning, Christopher asked a student, "What does 'hibernation' mean…?" The student provided a definition that was copied from a dictionary: "When your body goes into a state of…sleep?" (00:55:42 - 00:56:31). This definition, Christopher recognised, was too simplistic: "Maybe the dictionary definition isn't the best option. … Not really what we're looking for." He expected, instead, a definition that listed the physiological

characteristics of hibernation – that is, a definition that captured, accurately, the physiological changes that Ewa Wiśnierska 'experienced' after she was "sucked into a massive thunderstorm that thrust her 10,000 metres above the north-western plains of New South Wales" (http://www.abc.net.au/tv/programs/miracles/). Thus, Christopher googled 'hibernation' and displayed the definition from Wikipedia on the television screen: "*Hibernation* is a state of inactivity and metabolic depression…*characterised by low body temperature, slow breathing and heart rate, and low metabolic rate* [emphasis added" ("Hibernation", 2018, para. 1). During this brief exchange, Christopher:

a) informed by the (tacit) requirements of the task, responded to the simplistic conception of hibernation provided by the student (via the dictionary);
b) responded to the availability of a teaching resource (his computer, the World Wide Web, the television screen); and
c) selected and displayed a definition of hibernation that (i) listed the physiological characteristics of that state; (ii) added meaning to the details related in the documentary; (iii) could be used by students to shape their responses to the question on the worksheet.

The relative complexity of this moment of teaching was, also, captured by the KQ-E: again, the applicability of multiple dimensions/categories illuminates the scope of pedagogical activity demonstrated by Christopher during this 30 second period.

Table 34

Structure of Christopher's lesson of 3rd August: Parts, elements, pedagogical contexts, moments of teaching and applicable dimensions and categories of the KQ-E

Part of lesson	Element	Pedagogical context	Discursive moment (unit of analysis)	Applicable dimension(s) and category(ies) from the KQ-E			
				Foun	Tran	Conn	Cont
Part 1: Introduction (-00:10:00 - 00:08:35)	Silent reading (-00:10:00 - 00:00:00)	Monitor	Addresses class	None applicable			
	Preamble (00:00:00 - 00:01:10)	Directive	Addresses class	AoP (x2)		PC:Mac (x2), PC:Mic(PoN)	
			Addresses student	None applicable			
	Brainstorming and sharing[1] (00:01:12 - 00:08:35)		Addresses small group	None applicable			
			Addresses class	None applicable			
			Addresses student			PC:Mac	
			Addresses small group	None applicable			
			Addresses class	None applicable			
			Addresses student	None applicable			
			Addresses student	None applicable			
			Addresses student	None applicable			
		Shared	Addresses class				RtSI
Part 2: Viewing	Preamble (00:08:44 - 00:10:36)	Directive	Addresses class	AoP		PC:Mic(PoN)	
			Addresses student	None applicable			
			Addresses class	CoT			
	Students watch *Miracle in the Storm* (00:10:36 - 00:42:10)						
Part 3: Post-viewing discussion; questions and answers (00:42:10 - 00:59:38)	Class discussion[1] (00:42:10 - 00:44:07)	Shared	Sharing and discussion: Addresses class	AoP			
			Sharing and discussion: Question-answer exchange			PC:Mic(PoN)	EC:TtTC
			Sharing and discussion: Question-answer exchange			PC:Mic(PoN)	EC:TtTC
			Sharing and discussion: Question-answer exchange			PC:Mic(PoN)	
			Sharing and discussion: Question-answer exchange			PC:Mic(PoN)	
			Sharing and discussion: Question-answer exchange			PC:Mic(PoN)	

Part 3 (continued): Post-viewing discussion; questions and answers (00:42:10 - 00:59:38)			Question-answer exchange			PC:Mic(PoN)	
	Miracle in the Storm questions and activities sheet (00:44:29 - 00:59:38)	Monitor, assess and direct	Addresses class	AoP	UoIM (x2)		
			Addresses student				RtSI
			Addresses student				
			Addresses student				
			Addresses student				
			Addresses student		CoR		RtSI, RtATR
			Addresses student				
			Corrects student				
			Responds to student				RtSI
			Responds to student				
			Responds to student			EC:TtTC	RtSI
			Responds to student				RtSI
			Addresses students			PC:Mic(PoN)	RtATR
			Addresses student				
			Addresses student				
			Addresses student				
			Addresses class				
			Addresses class				

[1] A task-level micro-level scaffold; discussed in the section **Pedagogical cohesion: Micro-level scaffolding**, below.

The narrowness of applicability of the dimension Foundation to the pedagogy demonstrated by Christopher during the lesson of 27th July is echoed re the pedagogy he demonstrated during the lesson of 3rd August: again, only two categories from the dimension are relevant – *Awareness of purpose* and *Choice of text*. The narrow applicability of this dimension to the pedagogy demonstrated by Christopher across two lessons – and, particularly, the nil applicability of the category *Theoretical underpinning of pedagogy* – invites, again, consideration of his "knowledge of [English] pedagogy" (Rowland et al., 2009,

p. 30) and, as discussed below, intimates, perhaps, his comparative lack of experience in the classroom and, thus, limited opportunity to have developed a robust body of experience-based knowledge for English teaching.

Across Christopher's two 70 minute lessons, a total of 75 minutes was devoted to viewing *Miracle in the Jungle* and *Miracle in the Storm*, and 20 minutes to silent reading, leaving 45-50 minutes of pedagogical activity for analysis. Relative to the frequency of applicability of the KQ-E to the pedagogy demonstrated by Grace, Zahra and Catherine, the frequency of applicability of the framework to the pedagogy demonstrated by Christopher is noticeably diminished. Additionally, the range of categories that apply to his teaching is relatively narrow. Across 50 minutes of pedagogical activity, the KQ-E applies a total of 59 times, with nine categories relevant. Across Grace's lesson, by comparison, the framework applies 107 times, with 16 categories relevant; across Zahra's lesson, it applies 116 times, with 14 categories relevant; and across Catherine's lesson, it applies 84 times, with 18 categories relevant. The relative exiguousness of applicability of the KQ-E to Christopher's pedagogy appears to reflect the comparatively straightforward nature of his teaching – a point further reflected in the number of tables needed to illuminate the structure and content of his lessons: for each lesson, just one table was required (whereas for Grace's lesson, three tables were needed; similarly, three tables were needed for Zahra's lesson; and for Catherine's lesson, too).

Of the four teachers whose pedagogy is the subject of this research, Christopher is the least experienced. At the time of observation, he was halfway through his third year of teaching. As an early career teacher, then, Christopher is, according to AITSL (2011, p. 7), developing the knowledge and capabilities expected of a Proficient Teacher, which includes being able to:

- "create effective teaching and learning experiences for students"

- "develop…productive learning environments"
- "design and implement engaging teaching programs"
- "evaluate your teaching and…adjust your programs to better meet student needs"

As per Chapter 2, experience plays a key role in the development of pedagogical efficacy – for example:

- PCK develops via "an integrative process rooted in classroom practice" (van Driel et al., 1998, p. 673), meaning "prospective or beginning teachers usually have little or no PCK at their disposal" (p. 677).
- "Experienced teachers may possess rich repertoires of metaphors, experiments, activities, or explanations that are particularly effective for teaching a particular topic, while beginning teachers are still in the process of developing a repertoire of instructional strategies and representations" (Grossman, 1990, p. 9).
- "[I]t's being in the classroom and gaining experience that's the groundwork" (Smith, in Barnard & Paton, 2018, p. 28).
- "This is the only way of learning to teach – by getting in and doing it" (Teacher #38 F-35-3d, in Lortie, 1975, p. 78).
- "I don't think there's any way around trial and error…not that you do it any old way. … But you have to experiment and find a way to teach which is best for you…" (Teacher #47 F-32-1st, in Lortie, 1975, p. 78).

The role of classroom experience in the development of their pedagogical expertise was acknowledged by Grace and Zahra in post-lesson interview. While neither articulated the process by which experience was transformed into knowledge-for-teaching, both recognised that experience and, in particular, well-developed "knowledge and understanding

of the…social and intellectual development and characteristics of students and how these may affect learning" (AITSL, 2011, p. 10), shaped their pedagogy:

- I might have a play activity in my mind and then I'll get to that point and I'll be like I don't think that will work for them or it won't interest them or whatever. … Individual tasks, yeah, how you are going to do it is a lot up to the actual time. *That's just through, again, experience* [emphasis added] (Grace, post-lesson interview, 16/11/16, 00:21:50 - 00:22:36).
- I think that's just from prior knowledge of the children *and teaching career* [emphasis added] and it's just knowing that they don't have…that understanding…and they don't have that conversation with parents at home. Ninety percent of them wouldn't have those conversations so basing my knowledge and my prior knowledge of these children and knowing that their entry point needs to be base grade so that they can do it at their understanding and it has had tremendous success with what we looked at in the last couple of days with the book (Zahra, post-lesson interview, 02/11/16, 00:06:27 - 00:07:06).

The comparative sparseness of applicability of the KQ-E to Christopher's pedagogy is, perhaps, indicative of his relatively few years in the classroom. As an early career teacher, Christopher is beginning to develop a robust body of experience-based knowledge for teaching, or a 'practical theory of teaching' (Churchill et al., 2011, p. 465) or 'theory of action' (Macklin & Zbar, 2017, p. 114). Compared to knowledge for teaching that more experienced teachers like Grace, Zahra and Catherine bring to their work, Christopher's knowledge for teaching appears, understandably, to be relatively 'unsophisticated' – and is revealed in a more 'simplistic' pedagogy that is, in turn, illuminated by the sparseness of applicability of the KQ-E to his teaching. The pedagogy demonstrated by Christopher during

his observed/analysed lessons, for example, did not include the careful scaffolding that was characteristic of the pedagogy demonstrated by Grace, Zahra and Catherine during their observed/analysed lessons; and when asked, in post-lesson interview, why he chose to show the class the *Miracle* documentaries, his response indicated that he was unaware of, or had not formulated, a pedagogically valid rationale for the selection of the texts: "Good question and I wasn't responsible for choosing the text…so yeah, that survival unit was put together by another teacher maybe the year before or something like that. And so, yeah, we just adapted it and ran with it" (Christopher, post-lesson interview, 16/08/2017, 00:18:41 - 00:18:57). Moreover, when asked about the purpose of the unit of work on survivors and survival, Christopher admitted the content of the unit – or, at least, the way the material was presented and how the students were directed to engage with it – was, at best, only vaguely meaningful: "So they had to…consider another survival story and…make some connections between that and the stories that we were watching, *but from a personal perspective I'm not sure if we focused on that as much as perhaps what we could have done* [emphasis added]" (Christopher, post-lesson interview, 16/08/2017, 00:19:31 - 00:19:46). As Lingard et al. (2001) and Hayes, Mills, Christie and Lingard (2006) have, through their research into 'authentic pedagogy' in Australian classrooms, observed, connections between classroom learning and students' background knowledge and their lives beyond school are, often, tenuous. Indeed, none of Christopher's pedagogical activity was coded *External connectivity: Text-to-self connection* or *External connectivity: Text-to-world connection*.

The relative sparseness of applicability of the KQ-E to Christopher's pedagogy and, also, the comments he made in post-lesson interview, appear to intimate the place of classroom experience in the development of a robust body knowledge for teaching: both sets of data suggest that, compared to Grace, Zahra and Catherine, the quality of the body of knowledge

for teaching he brought to the process of defining, configuring and presenting the content of the observed lessons was, by virtue of his limited experience in the classroom, diminished.

Realisation

This section of the analysis is related to Research Question 2, *What do the categories of the KQ, and any new categories, 'look like' in the context of the pedagogy of subject English? What do they capture?* It is comprised, firstly, of a profile of the dimensions and categories of the KQ-E that apply to the pedagogy-of-subject-English demonstrated by Christopher and, then, of detailed descriptions/explanations of *how* the applicable categories of the KQ-E relate to, or were actualised through, his pedagogy, beginning with accounts of the applicability/realisation of the categories from Foundation, followed by similar accounts for the categories from the dimensions Transformation, Connection and Contingency. Lists and tables are regularly used to organise and improve the readability of the material. The accounts of the applicability/realisation of the categories include corroborating data from post-lesson interviews and, also, references to scholarly literature.

Analysis of Christopher's pedagogy revealed the following KQ-E profile:

Table 35

Frequency count of KQ-E categories for Christopher's Grade 8 English lessons

Dimensions and categories of the KQ-E			
		CF	DF
Foundation	Theoretical underpinning of pedagogy	0	12
	Awareness of purpose	10	
	Identifying pupil errors	0	
	Overt display of subject knowledge	0	
	Use of English terminology	0	
	Adherence to textbook	0	
	Concentration on procedures	0	
	Choice of text	2	
Transformation	Teacher demonstration	0	4
	Use of instructional materials	3	
	Choice of representations	1	
	Choice of examples	0	
	Use of instructional procedures	0	
Connection	Making connections between procedures	0	26
	Making connections between concepts	0	
	Anticipation of complexity	0	
	Recognition of conceptual appropriateness	0	
	Decisions about sequencing	0	
	Pedagogical cohesion	13 (2 TL, 11 PoN)	
	Macro-level scaffolding	8	
	Micro-level scaffolding	13 (2 TL, 11 PoN)	
	Connections within text	0	
	External connectivity	5	
	Text-to-self connection	0	
	Text-to-world connection	0	
	Text-to-text connection	5	
Contingency	Responding to students' ideas	15	17
	Deviation from lesson agenda	0	
	Teacher insight	0	
	Responding to the (un)availability of tools and resources	2	

Macro-level scaffolding	
LI	4
IN	
AP	
ES	
TF	

External connectivity		
LI		2
IN		
AP	1	
ES		
TF		

Total frequency: 59

Note: CF = Category Frequency; DF = Dimension Frequency; TL = task-level; PoN = point-of-need

Represented graphically, the category frequencies are more discernible:

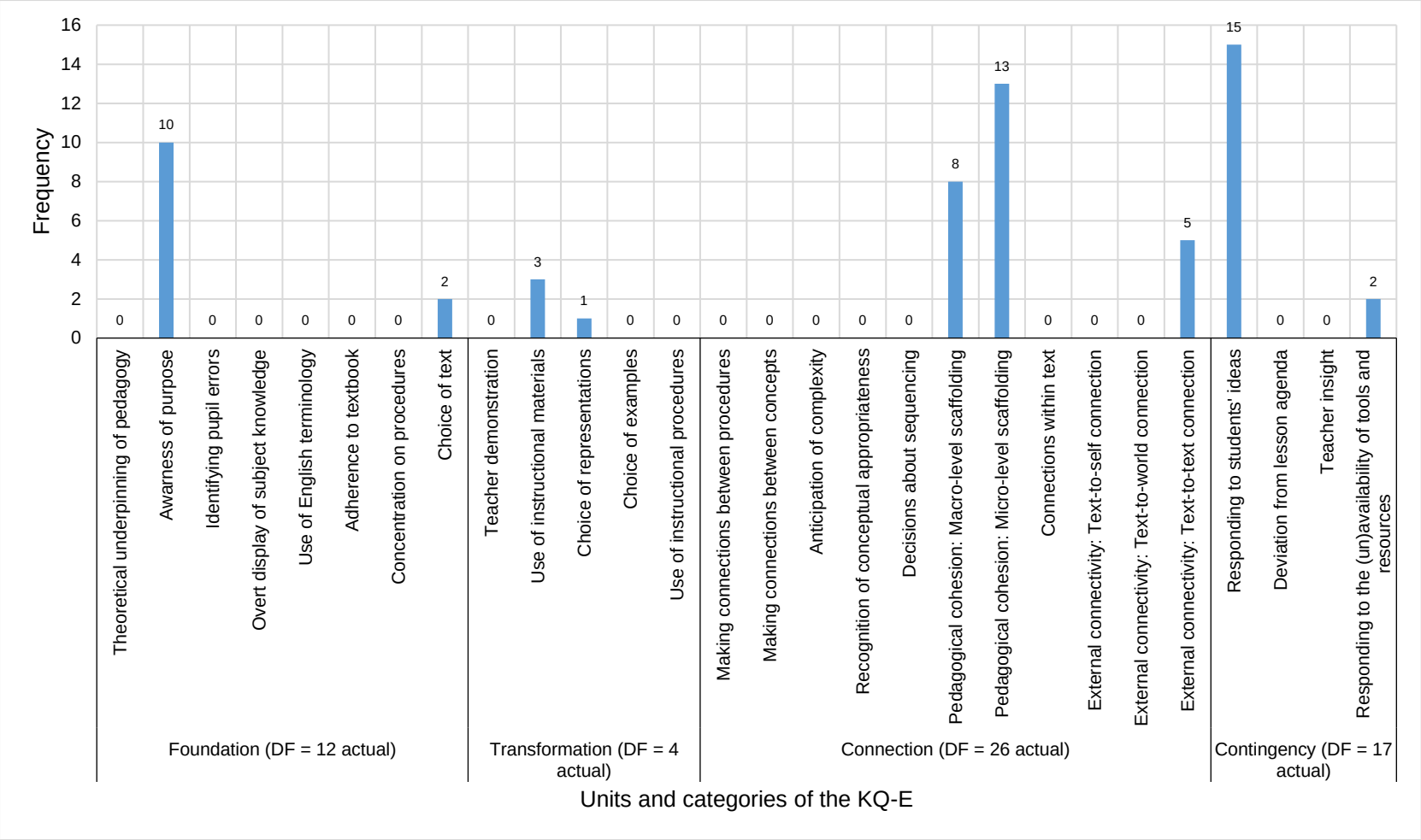


Figure 6. Frequency of KQ-E categories for Christopher's Grade 8 English lessons.

As per Table 35 and Figure 6, the KQ-E applied to Christopher's pedagogy 59 times across two lessons, with categories from Foundation applying 12 times; categories from Transformation 4 times; categories from Connection 26 times; and categories from Contingency 17 times. *Awareness of purpose*; *Pedagogical cohesion: Macro-level scaffolding*; *Pedagogical cohesion: Micro-level scaffolding*; *External connectivity: Text-to-text connection* and *Responding to students' ideas* were the categories that most apply to Christopher's pedagogy, while almost two thirds of the categories were not applicable. Within *Pedagogical cohesion: Micro-level scaffolding*, *External connectivity: Text-to-world connections* and *Responding to students' ideas*, literal- and appreciative-level comprehension was addressed. How the categories of the KQ-E apply to Christopher's pedagogy is the subject of the next four sections of this chapter.

Foundation: Categories Relevant to Christopher's Teaching

Analysis indicates that Foundation has a Dimension Frequency $n = 12$. The categories from the dimension that apply to his teaching are: *Awareness of purpose* and *Choice of text*. How these categories from Foundation apply to Christopher's pedagogy is the focus of the following sections of the chapter. Explanations of the applicability of the categories are made with reference to material from the lesson, and content from post-lesson interview.

Awareness of purpose. *Awareness of purpose* has a Category Frequency $n = 10$. The code applies to those moments of teaching wherein Christopher stated the purpose of (a) the lesson or (b) part of it. The first of these references occurred in the opening minutes of the lesson of 27th July (00:00:57 - 00:03:54), when Christopher wrote the lesson-level learning intentions, expressed as WALT, WILF and TIB statements, on the whiteboard:

WALT: Analyse another survival story – noting the differences to the story we watched yesterday

WILF: Students to consider the qualities displayed in this survival story – are they similar or different?

TIB: We will be completing an assignment on these stories where you will need to write a character profile

Several minutes later, Christopher addressed the class (00:09:26 - 00:14:08), expounding – though without consulting, or directing students' attention to – the WALT and WILF statements: "So today we're going to watch *Miracle in the Jungle*. Now what I'd like us to do…is to start *comparing the qualities that are displayed by the survivors*. So we're going to compare [Robert Bogucki's] story with this one. … So could we please have our exercise books out, *taking a few notes, so, obviously…who, what, when, where, why and how* [emphasis added]…so that we can get some questions answered at the end."

After he and the students had viewed 40 minutes of *Miracle in the Jungle* (Douglas, 2010), Christopher coordinated a four-minute-long class discussion that was linked to the stated purpose of the lesson: "So, if we just do a really quick *comparison* [emphasis added] with the documentary that we saw yesterday and Monday. Clearly, in the first one, the guy's lost in the desert and this guy's lost in the jungle" (00:58:41 - 01:03:03).

The content of the final 10 minutes of the lesson of 27th July was not connected to the compare/contrast purpose defined by the WALT, WILF and TIB statements. Instead, the purpose of the final minutes of the lesson was to "have a look at [i.e., answer, in writing] questions two and four" (01:03:03 - 01:03:12) from the *Miracle in the Jungle* questions and activities sheet (Appendix M) that had been displayed on the television screen. Christopher reiterated this direction – "So questions two and four, please, in our books. Two and Four

(01:03:40 - 01:04:27) – before he began circulating the classroom and providing support to students.

The category *Awareness of purpose* applies five times to the pedagogy demonstrated by Christopher during the lesson of 3rd August. The first instance of applicability relates to the lesson-level learning intentions – expressed, again, as WALT, WILF and TIB statements – that Christopher had written on the whiteboard before the lesson began:

> *WALT: Analyse survival stories and the qualities of survivors*
>
> *WILF: Thinking of words to describe the survivors we have seen so far*
>
> *TIB: You will need these words when writing character profiles and newspaper articles*

After concluding silent reading – "Books down and we'll need our exercise books out, please" – Christopher coordinated an eight-minute-long brainstorming-and-sharing session that was coupled – again, tacitly – to the WALT and WILF statements: "So…just while we're sitting quietly I'd just like us to take about a…minute or two…to write down as many words as you can think of that *describe the survivors that we've learned about so far* [emphasis added]" (00:00:00 - 00:01:05). During sharing, the class generated a list of 20 words that captured the psychological qualities demonstrated by Adcock and Bogucki (e.g., *quick-thinking*, *resourceful*), and their circumstances (e.g., *unfortunate/fortunate*): "OK, that's an excellent list, so well done for all of you for thinking of those sorts of words" (00:03:48 - 00:08:35).

The third instance of applicability of *Awareness of purpose* occurred at 00:08:44 - 00:09:20, when Christopher linked the purpose/process of recognising the psychological qualities of survivors to the upcoming task – the viewing of "the third and final [documentary]", *Miracle in the Storm* (Fulton & Peedom, 2010): "So, as we're watching today…I'd like you to look out for examples of all of these words happening. So take down

and note if you see something where [Wiśnierska] is like relentless or never gives up or when she shows resourcefulness."

The content of the final 15 minutes of the lesson was not connected to the qualities-of-survivors purpose defined by the WALT, WILF and TIB statements. Instead, the purpose of the final minutes of the lesson was "to just answer a couple of questions" (00:42:10 - 00:42:40) from the *Miracle in the Storm* questions and activities sheet (Appendix N). After distributing a copy of the worksheet to each student, Christopher reiterated the purpose of the final minutes of the lesson: "So the focus of our next 10 minutes or so are the first three questions. … Anyway, so we've got three questions to answer" (00:44:29 - 00:46:36).

The bulk of each of Christopher's two lessons was informed by learning intentions that, expressed as WALT, WILF and TIB statements, concerned the process of comparing/contrasting survival stories and, moreover, of recognising the span of personal – and, particularly, mental – qualities universally demonstrated by three people – Hayden Adcock, Robert Bogucki and Ewa Wiśnierska – who survived life-threatening circumstances in "the wild jungle of Laos", "WA's Great Sandy Desert" and "a massive thunderstorm…10,000 metres above the north-western plains of New South Wales" (http://www.abc.net.au/tv/programs/miracles/). The latter portion of each lesson was not linked to these purposes; rather, the final minutes of each lesson were devoted to students responding, in writing, to comprehension questions on the sheets that Christopher provided.

Expressed as a TIB statement, the rationale for each lesson concerned the completion of upcoming assignment work: the content of the lessons would help students develop the field of knowledge needed to complete a character profile and newspaper article:

- *TIB: We will be completing an assignment on these stories where you will need to write a character profile*

- *TIB: You will need these words when writing character profiles and newspaper articles*

When asked, in post-lesson interview, why the topic of survival was pertinent, Christopher acknowledged, cautiously, the humanistic potential of English:

> Yeah. So I guess those texts that we were looking at were good examples of overcoming adversity, and some of the students here…would overcome adversity on a daily basis I would imagine. And so I guess that would connect with their English studies so that *they could see people overcoming adversity, problem solving, starting to think about how these people got themselves into this situation for a start, and then how they managed to get out of them* [emphasis added]. And so just, yeah, I *think* that would be the link *I believe* [emphasis added]. (Christopher, post-lesson interview, 16/08/2017, 00:17:20 - 00:18:01)

He acknowledged, too, that efforts to connect the topic of the unit and the content of lessons to the lives of adolescent learners had been lacking: "from a personal perspective I'm not sure if we focussed on that as much as perhaps what we could have done" (Christopher, post-lesson interview, 16/08/2017, 00:19:40 - 00:19:46). Moreover, any links between the content and purpose of the lessons/unit and the teaching/learning requirements specified in the Year 8 section of the *Australian Curriculum: English* (ACARA, 2016a) were not elucidated by Christopher. Nevertheless, the newspaper article task does, it seems, correspond with curriculum expectations: the Year 8 Level Description states that Year 8 students "create…informative…types of texts, for example…reports" (p. 93) and Content Descriptor ACELY1736 states that, within Literacy: Creating Texts, Year 8 students

"[c]reate…informative…texts that…report events…using deliberate language and textual choices, and including digital elements as appropriate" (p. 99).

Expressed as WALT, WILF and TIB statements that Christopher recorded on the whiteboard and, then, elaborated, the purpose of the lessons was to build the body of topic knowledge, including vocabulary, that students would bring to the process of completing two assessment tasks – a character profile and a newspaper article, the latter of which appeared consistent with curriculum expectations for Year 8 students. Cautiously posited by Christopher, the rationale for the topic of the unit concerned the humanistic potential of English; however, the potential of this topic was not, he admitted, fully maximised.

Choice of text. *Choice of text* has a Category Frequency $n = 2$ and applies to the documentary films – *Miracle in the Jungle* (Douglas, 2010) and *Miracle in the Storm* (Fulton & Peedom, 2010) – that Christopher had the students view. These documentaries – along with *Miracle in the Desert* (Douglas, Fulton & Peedom, 2010), which the students had already viewed – comprise the *Miracle* series that was aired by the Australian Broadcasting Corporation (ABC) in 2014. *Miracle in the Jungle* relates the story of "Australian backpacker Hayden Adcock [who] went missing in the wild jungle of Laos just as a huge tropical storm was brewing. Missing for 11 days, an amazing chain of events led to Hayden's miraculous survival" (http://www.abc.net.au/tv/programs/miracles/). *Miracle in the Storm* relates "[t]he amazing true story of a German paraglider [Ewa Wiśnierska] who miraculously survived being sucked into a massive thunderstorm that thrust her 10,000 metres above the north-western plains of New South Wales" (http://www.abc.net.au/tv/programs/miracles/). The documentaries are voice-over narrated by Australian voice actor Lee Perry and blend first-hand accounts from the survivors, their family members and those involved in their rescues, with actual footage of the rescue situations and on-location and studio-based re-enactments of the subjects' experiences.

Students viewed *Miracle in the Jungle* and *Miracle in the Storm* to build a field of knowledge pertaining to survival and, specifically, to the span of personal qualities universally demonstrated by three individuals who survived life-or-death circumstances when "'mother nature' [was] at her most unforgiving" (http://www.abc.net.au/tv/programs/miracles/). This body of knowledge would then inform the content of tasks that students would complete for assessment: "take about a minute…or two, just to write down as many words as you can think of that describe the survivors that we've learned about so far [as] these words will be important for you when we're writing our character profiles and our newspaper articles next week" (lesson of 3rd August, 00:00:00 - 00:01:05). The documentaries appeared suitable for this purpose. However, in-lesson remarks by Christopher – and, also, his response to a question tendered during post-lesson interview – suggest he overlooked opportunities to capitalise, intentionally, on the possibilities-for-learning afforded by the films.

Post-lesson, Christopher stated that he "wasn't responsible for choosing the text[s] [because the] survival unit was put together by another teacher maybe the year before or something like that" (Christopher, post-lesson interview, 16/08/2017, 00:18:41 - 00:18:57). Moreover, comments he made in-lesson revealed that he was, himself, unacquainted with the content of the documentaries: "I am *unsure of the details* [emphasis added] about this jungle" (lesson of 27th July, 00:09:26 - 00:14:08) and "[i]t's called *Miracle in the Storm* and I *believe* [emphasis added] it's about a parachutist or a hang-glider *or something* [emphasis added]" (lesson of 3rd August, 00:08:44 - 00:09:20). Having not (a) viewed the films before showing them to the class or (b) developed a pedagogically valid rationale for using them, Christopher, it seems, restricted the degree to which he was able to harness/leverage the potential-for-learning afforded by the texts. Had Christopher been clear about the affordances of *Miracle in the Jungle* and *Miracle in the Storm* vis-à-vis the goals of the unit

of work, he might have been able to use the texts more effectively. This matter is addressed in detail in *Implications*.

Foundation: Summary

Two categories from Foundation applied to Christopher's pedagogy: *Awareness of purpose* and *Choice of text*. Table 36 reiterates, concisely, how those categories applied thereto.

Table 36

Summary of how two categories from Foundation applied to Christopher's pedagogy

Category	Frequency	Application to Christopher's pedagogy
Awareness of purpose	10	Expressed as written WALT, WILF and TIB statements that Christopher elaborated, the purpose the lessons was to build a body of topic knowledge, including vocabulary, that students would apply to the process of completing two assessment tasks.
Choice of text	2	The documentary films *Miracle in the Jungle* (Douglas, 2010) and *Miracle in the Storm* (Fulton & Peedom, 2010) were used to build students' topic knowledge.

Hereunder, the categories from Transformation that apply to Christopher's pedagogy are addressed.

Transformation: Categories Relevant to Christopher's Teaching

Analysis indicates that Transformation has a Dimension Frequency $n = 4$. The categories from the dimension that apply to Christopher's pedagogy are *Use of instructional materials* and *Choice of representations*. How these categories from Transformation apply to Christopher's pedagogy is the focus of the following sections of the chapter. Explanations of the applicability of the categories are made with reference to material from the lesson, and content from post-lesson interview.

Use of instructional materials. *Use of instructional materials* (Category Frequency *n* = 3) applies to Christopher's use of a small number of material resources to mediate students' learning – namely, the two post-viewing questions and activities sheets, and the collection of dictionaries.

The post-viewing questions and activities sheets (Appendix M and Appendix N) were not developed by Christopher but, rather, had been "put together by another teacher maybe the year before or something like that. And so, yeah, we just adapted it and ran with it" (Christopher, post-lesson interview, 16/08/2017, 00:18:41 - 00:18:57). Each included literal- and appreciative-level comprehension questions related to the events described in *Miracle in the Jungle* or *Miracle in the Storm*, and a research task. After viewing, students were directed to respond, in writing, to some of the questions:

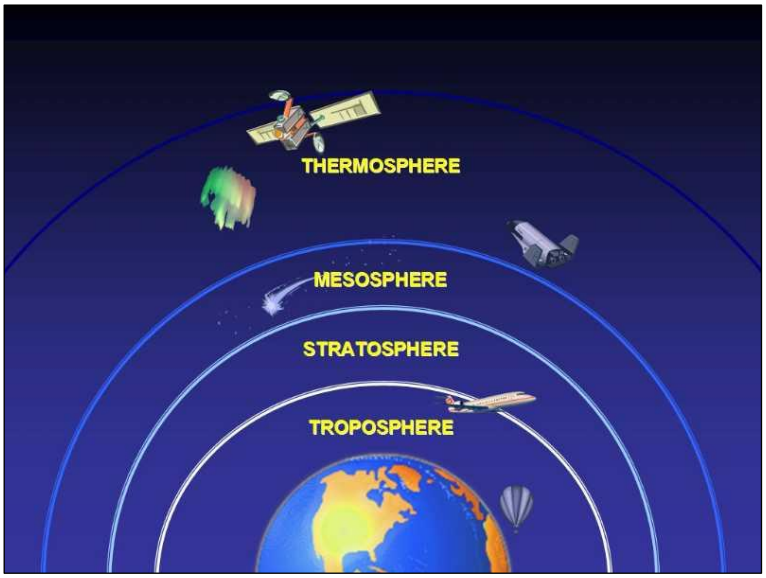
- "So questions two and four, please, in our books. Two and four. So question two: *What kind of preparation and planning would you make if you were in Hayden's situation?* … And question four: *What are some of the dangers in the jungle?*" (lesson of 27th July, 01:03:40 - 01:04:27).
- So the focus of our next 10 minutes or so are the first three questions. … Question one: *We are informed that Ewa Wiśnierska entered the 'death zone'. What is the death zone, where is it and what happens to the human body when you enter it?* Two, *Explain the meaning of hibernation*. … And three: *How did falling into a state of hibernation help to save Ewa's life?*" (lesson of 3rd August, 00:44:29 - 00:46:36).

The content of the worksheets, and why the students needed to complete the designated questions, appeared unrelated to the defined purpose of either lesson.

As per the quote above, the worksheet for *Miracle in the Storm* required students to define *hibernation*, the physiological state that Wiśnierska 'experienced' after she was "sucked into a massive thunderstorm that thrust her 10,000 metres above the north-western

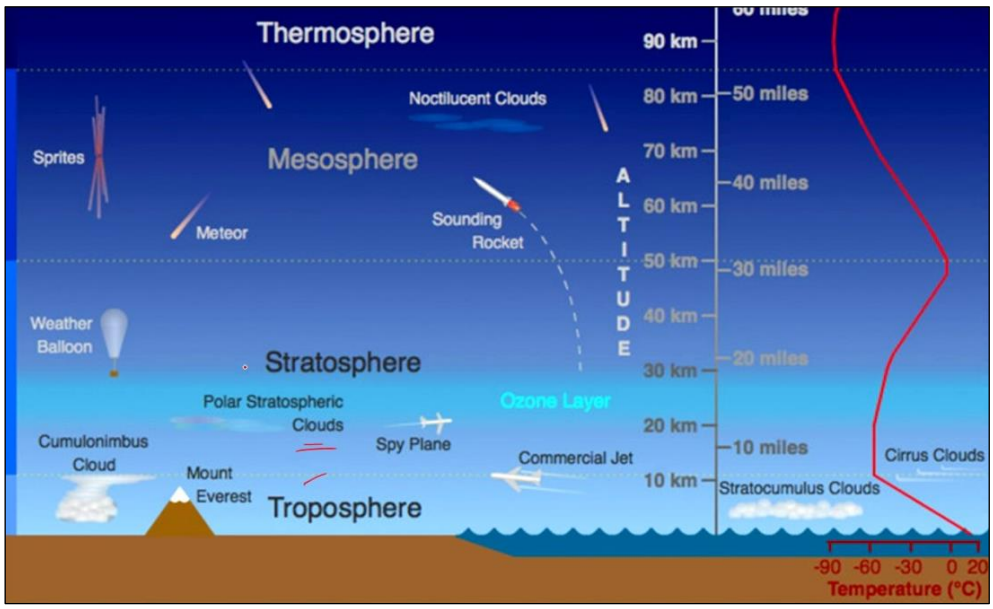
plains of New South Wales" (http://www.abc.net.au/tv/programs/miracles/). Addressing the class, Christopher suggested "have a guess; but [that], coincidentally, [he had] dictionaries…from the previous class so you can come and grab that" (lesson of 3rd August, 00:44:29 - 00:46:36). The dictionary definition, it transpired, was too simplistic: "When your body goes into a state of…sleep?" (STUDENT, 00:55:42 - 00:56:31): "Maybe the dictionary definition isn't the best option. … Not really what we're looking for" (lesson of 3rd August, 00:55:42 - 00:56:31). Christopher responded by googling *hibernation* and displaying the Wikipedia definition on the classroom television screen.

Choice of representations. The category *Choice of representations* has a Category Frequency $n = 1$ and applies to a moment that occurred late in the lesson of 3rd August, as students were answering questions from the *Miracle in the Storm* worksheet: at 00:50:58 - 00:51:56, Christopher, responding to a request from a student – "You've got a computer, could you please look it up?" – googled 'structure of Earth's atmosphere' and displayed the following image on the television screen:



The student wanted to know the structure of Earth's atmosphere – that is, the names of the different layers, and the arrangement of those layers: "Is the stratosphere the last layer?" The diagram Christopher selected, then, was apt to the extent that it provided the

information the student sought. It was, however, simplistic – even problematic: not drawn to scale, it grossly misrepresented the relative 'thicknesses' of each of the layers of the atmosphere, particularly the troposphere. As per the descriptive synopsis of the lesson of 3rd August, some of the students struggled to comprehend – and, moreover, contested the plausibility – of Wiśnierska's circumstances. As such, a diagram – such as the one below, from https://commons.wikimedia.org/wiki/File:Atmosphere_layers.jpg – that (a) is drawn to scale; (b) depicts the altitude at the peak of Mount Everest (8,848 metres) relative to the altitude at the tropopause (the boundary between the troposphere and stratosphere; approximately 12,000 metres; the altitude reached by Wiśnierska); and (c) which includes information about atmospheric temperature variation (the temperature at the tropopause, for example, is approximately -50°C), would have (a) provided the student with the information she requested and (b) been, potentially, a useful reference for those students who were finding it difficult to comprehend Wiśnierska's circumstances.



The selection and use of an accurate and informative diagram is discussed further in *Implications*.

Transformation: Summary

Two categories from Transformation applied to Christopher's pedagogy: *Use of instructional materials* and *Choice of representations*. Table 37 reiterates, concisely, how those categories applied thereto.

Table 37

Summary of how two categories from Transformation applied to Christopher's pedagogy

Category	Frequency	Application to Christopher's pedagogy
Use of instructional materials	3	Post-viewing questions and activities sheets, and dictionaries, were used to develop students' literal- and appreciative-level comprehension of *Miracle in the Jungle* and *Miracle in the Storm*.
Choice of representations	1	Responding to a request from a student, Christopher selected and displayed a simplistic diagram of the structure of Earth's atmosphere.

Hereunder, the categories from Connection that apply to Christopher's pedagogy are addressed.

Connection: Categories Relevant to Christopher's Teaching

Analysis indicates that Connection has a Dimension Frequency $n = 26$, the highest of the four dimension frequencies. The categories from the dimension that apply to Christopher's pedagogy are *Pedagogical cohesion: Macro-level scaffolding*; *Pedagogical cohesion: Micro-level scaffolding*; and *External connectivity: Text-to-text connection*. How these categories apply to Christopher's pedagogy is the focus of the following sections of the chapter. Explanations of applicability are made with reference to material from the two lessons.

Pedagogical cohesion: Macro-level scaffolding. *Pedagogical cohesion: Macro-level scaffolding* has a Category Frequency $n = 8$. The category applies to those moments of teaching wherein Christopher openly connected the content/learning of the current lesson to

the content/learning of prior lessons, or to the content/learning of future lessons. Five moments of macro-level scaffolding occurred during the lesson of 27th July and three occurred during the lesson of 3rd August – as follows:

- at 00:00:10 – 00:00:51, briefly recalled the content of the prior lesson: "Or like STUDENT'S doing, answering the questions from yesterday" (lesson of 27th July).
- at 00:0057 - 00:03:54, TIB statement, *We will be completing an assignment on these stories where you will need to write a character profile*, situates the content of the current lesson relative to the requirements of a future task (lesson of 27th July).
- at 00:09:26 - 00:14:08, related the content and purpose of the current lesson to the content of the prior lesson: "Rightio, so hopefully…you have gone home last night and finished off those *Miracle in the Desert* questions so that you're all ready to go. … So we're going to watch *Miracle in the Jungle*. Now…I'd like us…to start comparing the qualities that are displayed by the survivors. So we've talked about the need to be prepared and having the spiritual belief that you are gonna survive this and the way that Robert Bogucki…never gave up and the way that he was resourceful and the amazing fact that he was out there for twelve days without any water. So, we're going to compare his story to this one" (lesson of 27th July).
- at 00:58:41 - 00:59:21, connected the content of the current lesson to the content of the next lesson: "We've got about ten or twelve minutes to go, so we'll finish that off next week" (lesson of 27th July).
- at 01:05:59 - 01:06:13, connected the content of the current lesson to the content of the next lesson: "So, in Monday's lesson, we will finish off this video and we'll answer these questions in detail. So as long as we've got a bit of a start now so we can remember it on Monday" (lesson of 27th July).

- at 00:00:00 - 00:01:05, TIB statement – *You will need these words when writing character profiles and newspaper articles* – and comment – "'Cause these words will be important for you when we're writing our character profiles and our newspaper articles next week" – situate the content of the current lesson relative to the requirements of future tasks (lesson of 3rd August).
- at 00:01:45 - 00:02:11, recalled the content of the prior lesson: "We finished off on the back of the sheet on the *Miracle in the Jungle*. Yeah, so we just went through and looked at the countries in Southeast Asia…wrote down capital cities, all those kind of things" (lesson of 3rd August).

Vis-à-vis content, the lessons were cohered by a common resource – namely, the *Miracles* series and, also, by Christopher's references to the events related in the documentaries: "Robert Bogucki…never gave up and…he was resourceful and…he was out there for twelve days without any water" (lesson of 27th July, 00:09:26 - 00:14:08). Pedagogically, the lessons developed, cumulatively, students' awareness of the range of personal qualities universally demonstrated by the three survivors. Framed by the WALT, WILF and TIB statements, students engaged with the content of the documentaries – "So take down and note if you see something where she is…relentless or if she never gives up or when she shows resourcefulness" (lesson of 3rd August, 00:08:44 - 00:09:20) – in a way that would help them develop a body of knowledge they could then apply to the process of completing two assessment tasks.

Pedagogical cohesion: Micro-level scaffolding. *Pedagogical cohesion: Micro-level scaffolding* has a Category Frequency n = 13 (2 task-level, 11 point-of-need) and applies to two moments of teaching in the lesson of 27th July and 11 moments of teaching in the lesson of 3rd August.

The elements BRAINSTORMING AND SHARING (00:01:12 - 00:08:35) and CLASS DISCUSSION (00:42:10 - 00:44:07) of the lesson of 3rd August may be considered task-level micro-level scaffolds that (a) prepared students for viewing and (b) supported their comprehension of *Miracle in the Storm* (Fulton & Peedom, 2010). Christopher asked the students to record details of instances wherein Wiśnierska demonstrated behaviours that enabled her to survive: "[N]ote if you see something where she is…relentless or if she never gives up or when she shows resourcefulness" (00:08:44 - 00:09:20). The brainstorming and sharing that students had engaged in beforehand helped to channel their attention and, moreover, provided them with a list of the range of behaviours they were asked to identify and document: "OK, that is an excellent list, so well done for all of you for thinking of those sort of words" (00:03:48 - 00:08:35).

After the students had watched 30 minutes of *Miracle in the Storm* (Fulton & Peedom, 2010), Christopher stopped the recording and coordinated a two-minute-long class discussion in which students asked, and were provided with information pertaining to, questions regarding their comprehension of the events related in the documentary – particularly re the fate of some of Wiśnierska's fellow paragliders, one of whom was fatally struck by lightning: [STUDENT: "He was, like, about to get out of the storm and then the lightning went."] "Yeah, he was almost out, he was right on the edge and then got POW!" [STUDENT: "[J]ust a dead body floating?"] "Yeah" (00:43:43 - 00:43:52). This discussion preceded the distribution of the worksheet, and the direction to students to respond, in writing, to "the first three questions. … Question one: *We are informed that Ewa Wiśnierska entered the 'death zone'. What is the death zone, where is it and what happens to the human body when you enter it?* Two, *Explain the meaning of hibernation*. … And three: *How did falling into a state of hibernation help to save Ewa's life?*" (00:44:29 - 00:46:36). Like the pre-viewing brainstorming and sharing, then, the post-viewing discussion helped to focus students'

attention and clarify the body of knowledge that students would need to complete the next task.

The latter of these two task-level micro-level scaffolds, the element CLASS DISCUSSION, consisted, in fact, of a cluster of point-of-need micro-level scaffolds, or "specific classroom interactions" (Hammond & Gibbons, 2001, p. 6), that helped to clarify students' literal-level comprehension of the events related in *Miracle in the Storm* (Fulton & Peedom, 2010). Besides responding to questions about the fate of some of Wiśnierska's companions, Christopher also dialogued with students about the role of agency in the circumstances that befell Adcock, Bogucki and Wiśnierska: "But the other stories were…it was in the blokes' control, wasn't it? So the bloke was on the bike, he made the decision to go into the desert; the other guy was in the jungle and he made the decision to walk off the track." [STUDENT: "[It] wasn't in his control. He didn't mean to go into the jungle and get lost, did he?"] "No, true. But he decided that he wanted to go to the jungle; she had no control over [that] she's ended ten kilometres [up]" (00:43:05 - 00:43:18). Christopher gently challenged, or stretched, students' thinking by sharing his interpretation of the events recounted in the documentaries. Sharpe (2001) commented that point-of-need micro-level scaffolding often involves the teacher "tak[ing] the students along a particular path in their thinking which helps them establish…concepts or ideas" and, moreover, that point-of-need micro-level scaffolding "is usually achieved by…listening carefully to students' responses and then using…strategies to clarify and extend their thinking" (p. 36).

Across the two lessons, this was the only instance of a cluster of point-of-need micro-level scaffolds; each of the other five cases was isolated and, as per Table 38, consisted of a comment or direction that helped to clarify task expectations and guide students' thinking. As Mercer (1994) stated, point-of-need micro-level scaffolding may involve the teacher

"[s]electing particular themes…[and] elicit[ing] responses from pupils which draw them along a particular line of reasoning" (p. 99).

Table 38

Isolated instances of micro-level scaffolding (point-of-need) that occurred during the lessons of 27th July and 3rd August

Lesson	Time in lesson and description of moment of point-of-need micro-level scaffolding	Intended purpose/effect of moment
Lesson of 27th July	00:09:26 - 00:14:08 To class: "So, we're going to compare his story to this one. … So, does everybody understand what we're doing? So…clearly basics like who, what, when, where, why and how…jotting down some details so that we can get some questions answered at the end."	Clarified task expectations, directed students' viewing/thinking.
	00:58:41 - 00:59:21 To class: "So, if we just do a really quick comparison with the documentary that we saw yesterday and Monday. Clearly, in the first one, the guy's lost in the desert and this guy's lost in the jungle."	Reminds students of purpose of viewing and provides an example response to clarify expectations for discussion that is about to follow.
Lesson of 3rd August	00:00:00 - 00:01:05 To class: "So STUDENT has thrown out *courage*, so obviously they've shown courage in their actions."	While instructing the students to "brainstorm…words that…describe the survivors that we've seen so far", provided examples (*courage*, *relentlessness*) to clarify expectations and direct students' thinking.
	00:08:44 - 00:09:20 To class: "So, as we're watching today…look out for examples of all of these words happening. So take down and note if you see something where she is like relentless or if she never gives up or when she shows resourcefulness."	Clarified task expectations, directed students' viewing/thinking.
	00:56:36 - 00:57:03 Searched internet for a suitable definition of 'hibernation', opens Wikipedia article and reads aloud: "'*Hibernation* refers to a season of heterothermy characterised by low body temperature, slow breathing and heart rate, and low metabolic rate'."	By selecting and displaying a definition of hibernation that listed the physiological characteristics of that state, (a) clarified task expectations and (b) provided material could be used by students to shape their responses.

External connectivity: Text-to-text connection. *External connectivity: Text-to-text connection* has a Category Frequency $n = 5$ and captures moments of teaching wherein Christopher compared and/or contrasted the content of the documentaries. Three of the cases of *External connectivity: Text-to-text connection* occurred during Part 3 of the lesson of 27th

July. After the students had watched 40 minutes of *Miracle in the Jungle* (Douglas, 2010), Christopher stopped the recording and coordinated a four-minute-long class discussion that related to the purpose of the lesson:

> *WALT: Analyse another survival story – noting the differences to the story we watched yesterday.*
>
> *WILF: Students to consider the qualities displayed in this survival story – are they similar or different?*

After telling the class that "we [will] just do a really quick comparison with the documentary that we saw yesterday and Monday", Christopher acknowledged the difference between the settings in which Bogucki and Adcock found themselves: "Clearly, in the first one, the guy's lost in the desert and this guy's lost in the jungle" (00:58:41 - 00:59:21). In the discussion that followed, he drew more comparisons and distinctions between the circumstances endured by Bogucki and Adcock, as per the details related in the documentaries:

- acknowledging the response offered by a student (STUDENT: "There's a much higher risk of disease in the jungle"), speculated about the environment – desert or jungle – in which he would rather be lost: "Yeah, I was actually thinking to myself over there, if I had to be lost in the desert or the jungle I think I'd probably lean towards the desert 'cause the jungle didn't look fun, like, at all" (00:59:38 - 00:59:51).
- in the process of acknowledging, and extending, the response offered by a student (STUDENT: "Yeah…there's the two aspects of the survival: there's the psychological stuff…and there's the physical stuff as well"), contrasted the details of the circumstances in which Bogucki and Adcock found themselves, and compared "the element of luck that happens in these survival stories" (01:00:06 - 01:03:01).

Two cases of *External connectivity: Text-to-text connection* occurred in Part 3 of the lesson of 3rd August. After the students had watched 30 minutes of *Miracle in the Storm* (Fulton & Peedom, 2010), Christopher stopped the recording and coordinated a two-minute-long class discussion about the details of Wiśnierska's circumstances. During this discussion, he drew a distinction between the role of agency in the circumstances that befell Adcock, Bogucki and Wiśnierska: "Out of all the stories, this one is…in a way…completely out of her control, isn't it. Like…the updraft just took her up and she couldn't stop it. … But the other stories…it was in the blokes' control, wasn't it? So the bloke was on the bike, he made the decision to go into the desert; the other guy was in the jungle and he made the decision to walk off the track. … [S]he had no control over [that] she's ended ten kilometres [up]" (00:42:10 - 00:43:18). Shortly afterward, at 00:54:42 - 00:55:22, Christopher and a student shared their appreciative-level reactions to *Miracle in the Storm*, both agreeing that Wiśnierska's story "is the scariest, I reckon." [STUDENT: "Yeah, I know, it's really intense, like, it's going so quickly"].

The process of identifying consistencies/differences between Wiśnierska's story and the stories of Adcock and Bogucki related, it appears, to one of the purposes of the lesson: as per the initial part of the WALT statement, students would a*nalyse survival stories* (the other purpose, expressed in the latter part of the WALT statement, was to identify the span of personal qualities universally demonstrated by the survivors: *analyse…the qualities of survivors*). A continuation of the compare/contrast activity that featured in the lesson of 27th July, the process was, moreover, a means of developing students' comprehension of the circumstances that befell Adcock, Bogucki and Wiśnierska.

Connection: Summary

Three categories from Connection applied to Christopher's teaching: *Pedagogical cohesion: Macro-level scaffolding*; *Pedagogical cohesion: Micro-level scaffolding*; and

External connectivity: Text-to-text connection. During moments of *Pedagogical cohesion: Micro-level scaffolding*, students' literal-level comprehension of *Miracle in the Storm* (Fulton & Peedom, 2010) was addressed by Christopher; during a moment of *External connectivity: Text-to-text connection*, a student's appreciative-level comprehension of Wiśnierska's story was acknowledged. Table 39 reiterates, concisely, how the categories from Connection applied to Christopher's teaching.

Table 39

Summary of how three categories from Connection applied to Christopher's pedagogy

Category	Frequency	Application to Christopher's pedagogy
Pedagogical cohesion: Macro-level scaffolding	6	Vis-à-vis content, the lessons were cohered by a common resource – the *Miracles* series – and by Christopher's references to the events related in the documentaries. Pedagogically, the lessons developed, cumulatively, students' awareness of the range of personal qualities universally demonstrated by survivors, knowledge they could then apply to the process of completing two assessment tasks.
Pedagogical cohesion: Micro-level scaffolding	13 (2 task-level, 11 point-of-need)	Christopher applied multiple layers of micro-level scaffolding "within the broader macro scaffold" (Dansie, 2001, p. 50): the elements BRAINSTORMING AND SHARING and CLASS DISCUSSION of the lesson of 3rd August were task-level micro-level scaffolds that (a) prepared students for watching and (b) supported their comprehension of *Miracle in the Storm*; moments of point-of-need micro-level scaffolding mainly involved Christopher "[s]electing particular themes…[and] elicit[ing] responses from pupils which [drew] them along a particular line of reasoning" (Mercer, 1994, p. 99).
External connectivity: Text-to-text connection	5	As per the aims of the lessons, Christopher and the students compared and contrasted the content of the *Miracles* documentaries.

Hereunder, the categories from Contingency that apply to Christopher's pedagogy are addressed.

Contingency: Categories Relevant to Christopher's Teaching

Analysis indicates that Contingency has a Dimension Frequency $n = 17$. The categories from the dimension that apply to Christopher's pedagogy are *Responding to students' ideas* and *Responding to the (un)availability of tools and resources*. How these

categories from Contingency apply to Christopher's pedagogy is the focus of the following sections of the chapter.

Responding to students' ideas. *Responding to students' ideas* has a Category Frequency $n = 15$. The category applies to moments of Christopher's teaching that occurred during Part 1 and Part 3 of each lesson. Christopher's responses tended toward *acknowledge and incorporate*. A large number of teaching moments are coded *Responding to students' ideas*, making prose a protracted method of presenting the details of these moments. A table (Table 40) provides a more effective method of presenting the data.

Table 40

Details of moment of teaching (listed chronologically) coded Responding to students' ideas

Lesson	Time in lesson and description of moment	Purpose/effect of moment
Lesson of 27th July	00:09:26 - 00:14:08 Addressing class, question-answer exchange: "You think he'll survive?" [STUDENT: "'Cause it's raining, so."] "He'll have plenty of water."	Acknowledges and clarifies the student's response.
	00:59:21 - 00:59:32 Post-viewing class discussion: [STUDENT: "But they both had the same thing. So, like, without eating for a…amount of days and then sleeping, as well, they hardly both slept."] "Yep."	Accepts the student's response.
	00:59:32 - 00:59:38 Post-viewing class discussion: "STUDENT?" [STUDENT: "Um, at the jungle [inaudible]."] "Correct. Clearly."	Accepts the student's response.
	00:59:38 - 00:59:51 Post-viewing class discussion: [STUDENT: "There's a much higher risk of disease in the jungle."] "Yeah, I was actually thinking to myself over there, 'If I had to be lost in the desert or the jungle I think I'd probably lean towards the desert 'cause the jungle didn't look fun, like, at all."	Acknowledges and extends the student's response.
	01:00:06 - 01:03:01 Post-viewing class discussion: "Student?" [STUDENT: "Yeah, um…there's the two aspects of the survival: there's the psychological stuff…and there's also the physical stuff as well. And often…it's that psychological strength…that's more important to a person who's trying to survive an extreme situation."] … "Mmm. And I…often find it remarkable, just the element of luck that happens in these survival stories."	Acknowledges and adds to the student's response.

Lesson of 27th July	01:03:40 - 01:04:27 Class discussion re questions on the *Miracle in the Jungle* questions and activities sheet: "So it's a three kilometre walk up to a waterfall, what sort of preparation and planning do you think you might make?" [STUDENT: "Bring a jumper."] "And the key?" [STUDENT: "Considering he only had a water bottle from what I could see…"] "Well, and part of the preparation would be to actually talk to the locals, 'cause didn't they say in the documentary that he needed…[STUDENT: "The local guide."]…yeah, the local guide.	Tacitly indicates the student's response "Bring a jumper" is incorrect and attempts, unsuccessfully, to prompt a response based on the content of the documentary ("And the key?"); tells the student the 'correct' answer.
	01:05:13 - 01:05:36 Circulating the classroom, monitoring learning, question-answer exchange: "What do you think, STUDENT? … What kind of preparation do you think you should do?" [STUDENT: "Oh, um, don't go by yourself. … Go with a guide."] "A guide, certainly. Figure out how to speak with the locals. Take a machete."	Affirms and extends the student's response.
	01:05:38 - 01:05:45 Circulating the classroom, monitoring learning, question-answer exchange: [STUDENT: "I just thought bring a backpack…"] "True. All he had was that one bottle." [Student: "Yeah."]	Affirms the student's response.
	01:07:28 - 01:08:22 Circulating the classroom, monitoring learning, question-answer exchange: "What do you think you'd do to prepare, STUDENT? ["Well, me, probably, I would bring food because I'd get hungry on a three hour walk. Probably a map because, you know, get a clear way. And machete…"] "You need to write that down."	Tacitly affirms the student's response.
Lesson of 3rd August	00:03:48 - 00:08:35 Brainstorming and sharing, addressing class: "OK, that is an excellent list, so well done for all of you for thinking of those sort of words."	Affirms students' input.
	00:46:40 - 00:48:25 Circulating the classroom, monitoring learning, question-answer exchange: [STUDENT: "She would die instantly."] "Well she hasn't, she's passed out." [STUDENT: "They said the Death Zone was seven thousand metres up."] "Yes. But she went flying through there at forty metres a second."	Acknowledges the student's comments and, in responding, refers to details provided in *Miracle in the Storm*. Addresses student's literal-level comprehension.
	00:50:58 - 00:51:56 Circulating the classroom, monitoring learning, responds to student: [STUDENT: "Is the stratosphere the last layer?"] "I think so. … And then do you go into the darkness? I'm not up to speed with my…[STUDENT: "Science."]…nah." [STUDENT: "You've got a computer, could you please look it up?"]	Tentatively answers the student's question, responds to the student's request (see *Responding to the (un)availability of tools and resources*, below).
	00:53:38 - 00:54:09 Circulating the classroom, monitoring learning, responds to student: [STUDENT: "How did she make it *ten kilometres up* without dying?"] "Well it's only another three thousand metres and she was going, what, forty metres a second. So how many metres is she going up per minute? What's sixty times forty? … So two kilometres a minute. Going up."	Acknowledges the student's question and, in responding, refers to details provided in *Miracle in the Storm*. Addresses student's literal-level comprehension.

Lesson of 3rd August	00:54:42 - 00:55:22 Circulating the classroom, monitoring learning, responds to student: "This is the scariest, I reckon." [STUDENT: "Yeah, I know, it's really intense, like, it's going so quickly."] "I can't quite…get my head around that feeling of being sucked upwards." … [STUDENT: "Just keep going up."] "Goodness me. And like how was she not, like, ripped apart or anything like…"	Acknowledges and adds to the student's responses.
	00:55:42 - 00:56:31 Circulating the classroom, monitoring learning, addresses and responds to student: "What does *hibernation* mean, then, STUDENT?" [STUDENT: "When your body goes into a state of…sleep."] "When you're body goes into a state of sleep? Maybe a dictionary definition isn't the best option. … 'Hibernate' here says 'spend the winter in a sleep-like state'. Not really what we're looking for."	Acknowledges the student's answer, uses the response to intercede in students' learning (see *Responding to the (un)availability of tools and resources*, below).

Responding to the (un)availability of tools and resources. *Responding to the (un)availability of tools and resources* has a Category Frequency $n = 2$. The category applies to moments of Christopher's teaching that occurred in Part 3 of the lesson of 3rd August, as he was circulating the classroom and supporting students to respond to questions from the *Miracle in the Storm* questions and activities sheet. The first of the cases occurred at 00:50:58 - 00:51:56, when a student applied to Christopher, "You've got a computer, could you please look it up?" The student wanted to know the structure of Earth's atmosphere – that is, the names of the different layers of the atmosphere, and the arrangement of those layers. Responding to the student's request, and to the availability of ready access to the World Wide Web via his laptop, Christopher googled and displayed a diagram of the Earth's atmosphere on the television screen that provided the required information.

The second case of *Responding to the (un)availability of tools and resources* occurred at 00:55:42 - 00:57:03. Christopher asked a student, "What does 'hibernation' mean…?" The student provided a definition that was copied from a dictionary: "When your body goes into a state of…sleep?" (00:55:42 - 00:56:31). This definition, Christopher recognised, was too simplistic: "Maybe the dictionary definition isn't the best option. … Not really what we're looking for." He expected, instead, a definition that listed the physiological

characteristics of hibernation. Responding, again, to the availability of ready access to the World Wide Web via his laptop, Christopher googled 'hibernation' and displayed the definition from Wikipedia on the television screen and told students to "have that definition of hibernation written in your book, please. … Something similar to that. Needs to be in your book, please" (00:57:58 - 00:58:15).

Contingency: Summary

Two categories from Contingency applied to Christopher's pedagogy: *Responding to students' ideas* and *Responding to the (un)availability of tools and resources*. Table 41 reiterates, concisely, how those categories applied thereto.

Table 41

Summary of how two categories from Contingency applied to Christopher's pedagogy

Category	Frequency	Application to Christopher's pedagogy
Responding to students' ideas	15	Christopher acknowledged and responded to students' ideas. His responses tended toward *acknowledge and incorporate* and, in two cases, addressed a student's literal-level comprehension of *Miracle in the Storm*.
Responding to the (un)availability of tools and resources	2	Christopher responded to the availability of ready access to the World Wide Web via his laptop, googling and presenting information that supported students' completion of tasks from the *Miracle in the Storm* worksheet.

Realisation: Summary

Each of Christopher's English lessons with his Year (Grade) 8 students consisted of three parts: (1) Introduction; (2) Viewing; and (3) Post-viewing discussion, questions and answers. The content and organisation of each lesson was shaped, partly, by a pedagogical imperative that was captured by the KQ-E category *Awareness of purpose*: by comparing/contrasting three survival stories, students would develop the body of content

knowledge, including vocabulary, needed to complete two assessment tasks (character profile, newspaper article).

To achieve this purpose, Christopher showed the class the documentaries that comprise the *Miracles* series: prior to the lesson of 27th July, the students watched *Miracle in the Desert* (Douglas, Fulton & Peedom, 2010); during the lesson of 27th July, they watched 40 minutes of *Miracle in the Jungle* (Douglas, 2010); and during the lesson of 3rd August, they viewed 30 minutes of *Miracle in the Storm* (Fulton & Peedom, 2010). During the observed lessons, Christopher coordinated pre- and post-viewing tasks (e.g., brainstorming and sharing, class discussions) that encouraged students to compare/contrast the circumstances that befell the subjects of the documentaries (i.e., Adcock, Bogucki and Wiśnierska), and, also, to recognise the span of personal – and, particularly, mental – qualities universally demonstrated by these people. Christopher's use of the *Miracles* documentaries was captured by the category *Choice of text*; moments of teaching wherein he introduced, coordinated and participated in compare/contrast activities were captured by the category *External connectivity: Text-to-text connection*.

Other categories from Connection were applicable to Christopher's teaching. Sharpe (2001) discussed the "importance of [teachers] helping students to make explicit the connections…backwards to previous experiences and forward to [other] goals" (p. 36). Christopher situated, or contextualised, the content and purpose of each of the two lessons by "mak[ing] explicit the connections" to prior and future learning. These moments were captured by the category *Pedagogical cohesion: Macro-level scaffolding*.

During the lesson of 3rd August, Christopher coordinated two task-level micro-level scaffolds – the elements BRAINSTORMING AND SHARING (00:01:12 - 00:08:35) and CLASS DISCUSSION (00:42:10 - 00:44:07) that (a) prepared students for watching and (b) supported their comprehension of *Miracle in the Storm* (Fulton & Peedom, 2010). The element CLASS

DISCUSSION was, itself, composed of a cluster of point-of-need micro-level scaffolds helped to clarify students' literal-level comprehension of the events related in that documentary. Other cases of point-of-need micro-level scaffolding were isolated. The comments, directions and questions – the "specific classroom interactions" (Hammond & Gibbons, 2001, p. 6) – that Christopher provided to help clarify task expectations and guide students' thinking were coded *Pedagogical cohesion: Micro-level scaffolding (point of need)*.

During Part 3 of the lesson of 3rd August, Christopher responded, twice, to the availability of ready access to the World Wide Web via his laptop, googling and displaying, first, a simple diagram of the structure of Earth's atmosphere and, later, the Wikipedia definition of *hibernation*. Each of these moments was captured by the KQ-E category *Responding to the (un)availability of tools and resources* (from Contingency). (The moment involving the diagram of Earth's atmosphere was co-coded *Choice of representations*.) The category *Responding to students' ideas* (also from Contingency) applied, too, to Christopher's pedagogy, capturing moments wherein he acknowledged and, sometimes, added to student's comments/thinking.

The other category that applied to Christopher's teaching was *Use of instructional materials*, which captured his use of the two post-viewing worksheets and collection of dictionaries.

The general sparseness of applicability of the KQ-E to Christopher's pedagogy was punctuated by a small number of moments to which multiple dimensions/categories applied. Typically, these moments occurred at, or constituted, pedagogically critical junctures of the lesson, wherein multiplicity of intent occasioned relatively complex teaching activity – that was, in turn, captured by the KQ-E. The chapter now turns to those aspects of Christopher's pedagogy that application of KQ-E has suggested might be the focus of improvement.

Implications

Despite the nil applicability of opportune codings to the pedagogy-of-subject-English demonstrated by Christopher, aspects of his teaching could be the focus of feedback and reflection that might enhance the efficacy of his practice. The aspects of Christopher's teaching that could be the subject pedagogical reasoning were not explicitly illuminated by the KQ-E because of the confines of the present version of the framework; nevertheless, by applying the framework to the pedagogy demonstrated by Christopher, the researcher was 'brought close' to Christopher's practice and, as such, identified opportunities for input. Those opportunities were catalogued and suggestions regarding how Christopher's pedagogy might be developed were documented. The aspects of Christopher's pedagogy that could be the focus of development, but which the application of the current KQ-E did not explicitly illuminate, are discussed below.

As per the sections *Analytical synopsis of lesson* and *Realisation*, the scope of applicability of the dimension Foundation to the pedagogy demonstrated by Christopher was limited to two categories: *Awareness of purpose* (n = 10) and *Choice of text* (n = 2). Moreover, the range and rigour – the *quality* – of Christopher's 'awareness of purpose' – and, also, the quality of his rationale for 'choosing' the *Miracles* documentaries – appeared constrained. Vis-à-vis *Awareness of purpose*, Christopher acknowledged, via the WALT, WILF and TIB statements that he wrote on the whiteboard and elaborated:

a) the learning that was intended to be 'done' by the students in each lesson (e.g., *consider qualities*, *thinking of words to describe*);
b) how that learning would be done (e.g., *analyse another survival story – noting the differences*); and
c) why it was necessary (e.g., *need these words when writing character profiles and newspaper articles*)

However, beyond helping students develop the body of topic knowledge, including vocabulary, that was needed to complete two assessment tasks, his awareness of purpose lacked clarity. Indeed, as per the section *Realisation*, Christopher acknowledged that efforts to connect the content of his lessons to the lives of his adolescent learners had been lacking: "from a personal perspective I'm not sure if we focussed on that as much as perhaps what we could have done" (Christopher, post-lesson interview, 16/08/2017, 00:19:31 - 00:19:46). Moreover, he provided, only, a cautious rationale for the topic/unit, tentatively citing its humanistic potential:

> So *I guess* [emphasis added] those texts that we were looking at were good examples of overcoming adversity, and some of the students here…would overcome adversity on a daily basis *I would imagine* [emphasis added]. And so *I guess* [emphasis added] that would connect with their English studies so that they could see people overcoming adversity, problem solving, starting to think about how these people got themselves into this situation for a start, and then how they managed to get out of them. And so just, yeah, I *think* [emphasis added] that would be the link *I believe* [emphasis added]. (Christopher, post-lesson interview, 16/08/2017, 00:17:20 - 00:18:01)

Vis-à-vis *Choice of text*, Christopher indicated, in post-lesson interview, that he "wasn't responsible for choosing the text" (Christopher, post-lesson interview, 16/08/2017, 00:18:41 - 00:18:57). Moreover, comments he made immediately prior to showing *Miracle in the Jungle* (Douglas, 2010) and *Miracle in the Storm* (Fulton & Peedom, 2010) indicated that he was unaware of the content of the documentaries:

- "So, we're going to compare his story to this one – and I am unsure of the details about this jungle" (lesson of 27th July, 00:09:26 - 00:14:08).

- "It's called *Miracle in the Storm* and I believe it's about a parachutist or a hang-glider or something" (00:08:44 - 00:09:20).

Teaching, Fullan (1993) argued, is a profession – indeed, vocation – that naturally cultivates questions of purpose and vision – because, in the end, "that is what [teachers'] work is all about" (Murdoch, 2002, p. iii). Beach et al. (2011) have identified "a wide range of different factors" (p. 39) involved in planning for text-centric teaching and learning, including "having to think about…the larger purpose and value [of]…why you're doing what you are doing" (p. 5). Murdoch (2002) concurs: "[i]t is not enough to [just] consider the…'product' that we might have students work towards" (p. iii). According to the WALT, WILF and TIB statements he wrote on the whiteboard, Christopher was, indeed, conscious of the requirements of the two products (character profile, newspaper article) that his students would shortly complete. Additionally, a response he tendered during post-lesson interview appears to reveal his developing sense of the purpose of subject English:

> So I guess English is all about learning the fundamentals of life in a roundabout kind of way…those kind of things. So I've always thought that English is a really important part of the school life, but it can get a bit wishy washy and I can understand from a student's viewpoint about, 'Why are we doing this and that kind of stuff?' So my belief's always to be, make sure that the tasks that we're doing have some sort of real world focus or a connection that the students can take that skill and use it hopefully in the future, and so that that's what I think around English and hopefully how I go about it. (Christopher, post-lesson interview, 16/08/2017, 00:03:06 - 00:03:75)

However, the questions of purpose to which Christopher offered, only, tentative responses concerned the broader goals of the unit of work on survivors and survival. These

unit-level questions of purpose, as Murdoch (2002) indicated, must also be answerable by teachers:

- What are the 'big ideas' that underpin this unit?
- What relevance do these ideas have for this particular group of students?

(p. iv)

These are questions of curriculum authenticity that Christopher has begun to contemplate, but to which the development of well-defined, robust responses is recommended. A clear sense of unit-level purpose, Connor (2002) maintained, is important: it boosts the likelihood that content will be cognitively rich, coherent, durable and portable. That is, clarity of purpose has a trickle-down effect, translating into authentic, well-defined unit- and, then, lesson-level objectives that shape the selection, sequencing and presentation of content (Hammond & Gibbons, 2001).

Schofield (1999) noted that "intelligent action is action guided by aim" (p. 5). Having clarified the purpose of the unit, Christopher could reconfigure the content of his lessons. Beach et al. (2011) stated that "[a]n important aspect of pedagogical knowledge [is]…a firm grasp of [the text] and the ways in which it could be [used]" (p. 40). Having not, himself, watched the documentaries before showing them to the class, Christopher lacked a keen awareness of, and therefore seemed unable to effectively leverage, the affordances of *Miracle in the Jungle* (Douglas, 2010) and *Miracle in the Storm* (Fulton & Peedom, 2010) in relation to the lesson-level learning intentions, let alone in relation any unit-level purposes.

Murdoch (2002) has provided more questions that might inform Christopher's thinking and planning:

- What texts will our students access?
- How will these texts be examined?

- How can we scaffold the learning and enable students to build understanding for themselves?

Had Christopher (a) been supported to apply these questions to his planning and (b) as part of that planning, watched the documentaries and identified how to use that material more strategically, he may have (c) delivered lessons that were, pedagogically, more robust – and, in so doing, (d) prevented the distracting, off-task behaviour demonstrated by some students in the lesson of 3rd August.

More questions for Christopher: 'What, precisely, is the point of watching the *Miracles* documentaries? What do you want students to take from them?' Also, 'What prior knowledge will students bring to the films?' As per the lessons of 27th July and 3rd August, Christopher used *Miracle in the Jungle* (Douglas, 2010) and *Miracle in the Storm* (Fulton & Peedom, 2010) as stimuli whereby students developed a list of personal qualities demonstrated by individuals who survived life-threatening circumstances. Eight-and-a-half minutes, during Part 1 of the lesson of 3rd August, were devoted to this process; triple that time was devoted to students responding, in writing, to comprehension questions from the post-viewing worksheets – work that was unrelated to the stated purposes of the lessons.

Clarification of the purpose(s) of the unit on survivors and survival may prompt Christopher to utilise the *Miracles* documentaries differently. Assuming, however, the reason for having students view the films remains the same (i.e., to identify the personal qualities demonstrated by survivors), the following could be suggested to Christopher during a professional conversation:

- Pre-watch the films, identifying/documenting points at which information critical to viewers' comprehension of the subjects' circumstances is provided, and at which the subjects demonstrate the personal qualities typical of survivors of life-threatening situations.

- Plan the content of each lesson according to the Before-During-After (BDA) viewing framework (Paris & Oka, 1986; Temple, Ogle, Crawford, & Freppon, 2011), a framework that supports comprehension by: (1) activating and developing the applicable field of background knowledge, and establishing a purpose for viewing; (2) shaping and supporting deliberate engagement with content; and (3) eliciting/explicating comprehension of text and reconciling new learning with existing knowledge/understanding.

Table 42 includes activities that, applied within the BDA framework, could purposefully develop students' comprehension of *Miracle in the Jungle* and *Miracle in the Storm*. Consistent with social-constructivist/Vygotskian (1962, 1978) notions of learning, these activities include, also, opportunities for students to co-construct meaning through dialogue.

Table 42

Possible before, during and after viewing activities to develop students' comprehension of Miracle in the Jungle *and* Miracle in the Storm

Stage of viewing	Strategies	
	Miracle in the Jungle	*Miracle in the Storm*
Before viewing	Using Think-Pair-Share, explore meaning of *miracle*. Introduce etymology (Latin *mirus*, "wonderful"), develop and display co-constructed definition. Briefly introduce *Miracle in the Jungle* and, using Google Earth and screen, show Southeast Asia, Laos and location of Adcock's loss/survival. Students complete Sensory Chart (Annandale et al., 2004) for jungle, share. Think-Pair-Share: "What dangers will the jungle pose to Adcock's survival?"	Review co-constructed definition of *miracle*. Briefly introduce *Miracle in the Storm* and, using Google Earth and screen, show north-western New South Wales and location of Wiśnierska's ordeal. Show images of paragliders. Using Think-Pair-Share, activate and begin to develop students' knowledge of structure of Earth's atmosphere. Show diagram of structure of Earth's atmosphere and explain. Identify tropopause, ask: "What might cause a paraglider to reach this altitude?" Students share ideas. Using Think-Pair-Share, explore meaning of hibernation; elaborate students' ideas using Wikipedia definition.
During viewing	Students complete Round Up Your Ideas (Queensland Curriculum and Assessment Authority [QCAA], 2010) proforma. At appropriate points, pause documentary and: • ensure students have added details to Round Up Your Ideas proforma • discuss dangers to Adcock's survival (e.g., exposure, infection) • discuss personal qualities being demonstrated by Adcock	Students complete Round Up Your Ideas (QCAA, 2010) proforma. At appropriate points, pause documentary and: • ensure students have added details to Round Up Your Ideas proforma • discuss details of Wiśnierska's situation, dangers to her survival (e.g., exposure) • discuss personal qualities being demonstrated by Wiśnierska
After viewing	Using details on Round Up Your Ideas proforma, students complete 66-Word Summary (Annandale et al., 2004) of *Miracle in the Jungle*. Using Give One Get One strategy (Garmston & Wellman, 2016), share and discuss: • dangers to Adcock's survival; compare to dangers faced by Bogucki in *Miracle in the Desert* • personal qualities demonstrated by Adcock; compare to qualities demonstrated by Bogucki. Display list of qualities. Class discussion – address *Miracle in the Jungle* as a text; e.g., how it *constructs* the danger and the qualities of survivors.	Using details on Round Up Your Ideas proforma, students complete 66-Word Summary (Annandale et al., 2004) of *Miracle in the Storm*. Using Inner Outer Circle strategy (Garmston & Wellman, 2016), share: • dangers to Wiśnierska's survival; compare to dangers faced by Bogucki in *Miracle in the Desert* • personal qualities demonstrated by Wiśnierska ; compare to qualities demonstrated by Bogucki. Class discussion – share dangers to Wiśnierska's survival and compare to dangers faced by Bogucki and Adcock; share personal qualities demonstrated by Wiśnierska and compare to qualities demonstrated by Bogucki and Adcock. Add to list of qualities. Class discussion – address *Miracle in the Storm* as a text; e.g., how it *constructs* the danger and the qualities of survivors.

Application of the KQ-E to the pedagogy demonstrated by Christopher, and responses he tendered during post-lesson interview, suggested his unit of work on survivors and survival lacked a deep sense of purpose. Additionally, he was unfamiliar with the content of the texts on which his lessons were based. In the classroom, these *foundational* issues manifested as meandering and, indeed, ineffective instruction: during both lessons, much of Christopher's efforts post-viewing were spent keeping students on-task; and, during the lesson of 3rd August, to responding to a student who questioned, incessantly, the legitimacy of the details related in *Miracle in the Storm*.

The work of a teacher is customarily portrayed in images of face-to-face classroom interaction. Working alongside students is, certainly, the most visible aspect of the profession. Yet the processes by which students are led to learning are the result of strategic work done behind the scenes. As Murdoch (2002) contended, "[q]uality programming is the foundation on which powerful teaching and learning is built" (p. iii). Analysis of Christopher's pedagogy indicated the potential for collegial dialogue about purpose and, from there, co-planning and preparation of lessons that (a) carefully scaffold students' purposeful engagement with the content of the documentaries *Miracle and the Jungle* and *Miracle in the Storm* and (b) incorporate opportunities for focused dialogue and co-construction of meaning. Additionally, thorough planning and preparation, based on a clear sense of purpose, may enable Christopher to respond confidently – and, indeed, strategically – to unexpected input from students.

Summary: The *Knowledge Quartet – English* and Christopher's Pedagogy-of-Subject-English

The pedagogy that Christopher, a teacher of two-and-half years' experience, demonstrated during two lessons with his Year (Grade) 8 high school students was described and analysed. Students watched portions of *Miracle in the Jungle* (Douglas, 2010) and

Miracle in the Storm (Fulton & Peedom, 2010), documentary films from the *Miracles* series, to develop the topic knowledge, including vocabulary, they would apply to the process of completing two assessment tasks. To develop this topic knowledge, they (a) compared/contrasted the circumstances that befell the subjects of the films; (b) developed a list of the personal qualities demonstrated by these individuals; and (c) responded, in writing, to comprehension questions – presented on worksheets – about the details related in the documentaries.

Vis-à-vis Research Question 1, *To what extent is the content of the KQ applicable to the pedagogy of subject English?,* analysis revealed that five categories from the framework developed by Rowland et al. (2005, 2009) were applicable to Christopher's pedagogy:

- from Foundation, *Awareness of purpose*
- from Transformation, *Use of instructional materials* and *Choice of representations*
- from Contingency, *Responding to students' ideas* and *Responding to the (un)availability of tools and resources*

Four of the categories that emerged in the course of this research, and which have been added to the original KQ to form the KQ-E, applied to Christopher's pedagogy:

- from Foundation, *Choice of text*
- from Connection, *Pedagogical cohesion: Macro-level scaffolding*; *Pedagogical cohesion: Micro-level scaffolding* and *External connectivity: Text-to-text connection*

These categories, indicated in the list below by an asterisk (*), capture pedagogical activity that appears to be characteristic of the pedagogy of subject English.

Nineteen categories were not applicable to Christopher's pedagogy: from Foundation, *Theoretical underpinning of pedagogy*; *Identifying pupil errors*; *Overt display of subject knowledge*; *Use of English terminology*; *Adherence to textbook*; and *Concentration on*

procedures; from Transformation, *Teacher demonstration*; *Choice of examples*; and *Use of instructional procedures*; from Connection, *Making connections between procedures*; *Making connections between concepts*; *Anticipation of complexity*; *Recognition of conceptual appropriateness*; *Decisions about sequencing*; *Connections within text*; *External connectivity: Text-to-text connection*; and *External connectivity: Text-to-world connection*; and from Contingency, *Deviation from lesson agenda* and *Teacher insight*.

Connection (Dimension Frequency *n* = 26) is the unit that most applied to Christopher's pedagogy, followed by Contingency (Dimension Frequency *n* = 17), Foundation (Dimension Frequency *n* = 12) and Transformation (Dimension Frequency *n* = 4). Below, the nine categories that pertained to Christopher's pedagogy are ranked in descending order according to frequency of applicability:

- *Responding to students' ideas* (*n* = 15)
- *Pedagogical cohesion: Micro-level scaffolding* (*n* = 13; 2 task-level, 11 point-of-need)*
- *Awareness of purpose* (*n* = 10)
- *Pedagogical cohesion: Macro-level scaffolding* (*n* = 8)*
- *External connectivity: Text-to-text connection* (*n* = 5)*
- *Use of instructional materials* (*n* = 3)
- *Choice of text* (*n* = 2)*
- *Responding to the (un)availability of tools and resources* (*n* = 2)
- *Choice of representations* (*n* = 1)

In relation to Research Question 2, *What do the categories of the KQ, and any new categories, 'look like' in the context of the pedagogy of subject English? What do they capture?*, the two sets of data that pertain to the lessons – (a) the results of the application of

the KQ-E and (b) evidence gathered during post-lesson interview – suggested that Christopher's teaching-learning program was not informed, or driven, by a deep sense of purpose and that, consequently, his pedagogy lacked direction and rigour. Additionally, the comparative sparseness of applicability of the framework to the pedagogy demonstrated by Christopher indicates, perhaps, that issues pertaining to his practice (i.e., limited purpose, lack of scaffolding of learning, disconnect between stated purpose of lesson and lesson content) were due, also, to limited classroom experience. The body of experiential knowledge for teaching that informs his classroom activity is, currently, restricted – revealed in straightforward pedagogy that is, in turn, illuminated by sparseness of applicability of the KQ-E.

Amid this sparseness of applicability, however, moments of concentrated category relevance occurred. During the lesson of 27th July, multiple dimensions/categories applied to (1) a moment 'Addresses class' that occurred in the element PREAMBLE at the end of Part 1 of the lesson; and (2) a moment 'Addresses class' at the beginning of the element CLASS DISCUSSION in Part 3 of the lesson. During the lesson of 3rd August, multiple dimensions/categories applied to (1) a moment 'Addresses student' in the element *MIRACLE IN THE STORM* QUESTIONS AND ACTIVITIES SHEET in Part 3 of the lesson; and (2) a moment 'Addresses students' that occurred shortly afterward, at 00:56:36 - 00:57:03. The applicability of multiple dimensions/categories of the KQ-E to these moments of teaching intimates the relatively sophisticated nature of the pedagogical activity being 'done' by Christopher. The moments of the lesson of 27th July were, in fact, pedagogically critical, being the points of the lesson wherein upcoming content/learning is contextualised, explained and shaped. This multifaceted pedagogical imperative was expressed in Christopher's discourse and, consequently, captured by multiple dimensions and categories of the KQ-E. During each of the moments of the lesson of 3rd August, Christopher responded,

comprehensively, to student input. The applicability of multiple dimensions/categories to these moments illuminates the scope of the pedagogical activity he demonstrated, which, in the latter instance, involved reflecting-in-action to develop students' knowledge to a level commensurate with task requirements.

In relation to Research Question 3, *What potential might a KQ for subject English have, or demonstrate, to enhance the pedagogy of teachers of subject English?*, the general sparseness of applicability of the KQ-E to the pedagogy demonstrated by Christopher during the lessons of 27th July and 3rd August revealed, perhaps, the limited body of experiential knowledge for English teaching presently informing his classroom activity. Furthermore, the nil applicability of the category *Theoretical underpinning of pedagogy* and, also, the cautiously posited statement of belief re the purpose of English – "So *I guess* English is all about learning the fundamentals of life in a roundabout kind of way…those kind of things" (Christopher, post-lesson interview, 16/08/2017, 00:03:06 - 00:03:25; emphasis added) – prompted consideration of Christopher's knowledge of English pedagogy and, moreover, of his "beliefs about [English], including beliefs about why…[English] is learnt" (Rowland et al., 2009, p. 30). The section *Implications* described how issues pertaining to Christopher's pedagogy might be addressed via collegial support, including through (a) dialogue about purpose and (b) co-planning (perhaps, even, co-teaching) of lessons.

The chapter turns, now, to analysis of the pedagogy-of-subject-English demonstrated by Catherine in a lesson with her Year (Grade) 10 high school students. The lesson, described below, was conducted toward the end of the school year.

Catherine:
Year (Grade) 10 High School Subject English Lesson

Descriptive Synopsis of Lesson

Catherine has 21 students in her mixed-ability Grade 10 English class, including one fee-paying international student for whom English is an additional language, and two students with Autism Spectrum Disorder who sometimes receive Teacher Aide support (but not during this lesson). The lesson began routinely: as the students entered the classroom, they took their seats and began reading the novels they had brought with them, or which they collected from the bookshelf adjacent to the whiteboard at the front of the room.

After several minutes, Catherine concluded silent reading: "OK, if you could please put your books down" (00:02:50 - 00:03:18). She reminded the students of the upcoming English exam and briefly described the study requirements they were expected to fulfil (as per a previously distributed revision schedule). She then introduced the purpose of the lesson, explaining that, while she had been "really impressed [with] how you've worked on this style analysis" (00:03:18 - 00:04:05), she wanted to "make sure that you really…understand the poem" (00:08:12 - 00:09:14) because she had observed, in the previous lesson, that many of the students' literal-level comprehension of *The Killer* (by Australian poet Judith Wright, 1915-2000), was partial: "[T]hey understood a bit, but some of them were saying things like they still thought that the snake was the main killer" (Catherine, post-lesson interview, 00:04:10 - 00:04:16). For these students, under-developed comprehension of the poem would significantly compound the challenge of completing the upcoming assessment task – an analysis of Wright's work, completed in formal essay style[16]. Catherine then explained to the class that "good readers, when they read, automatically in

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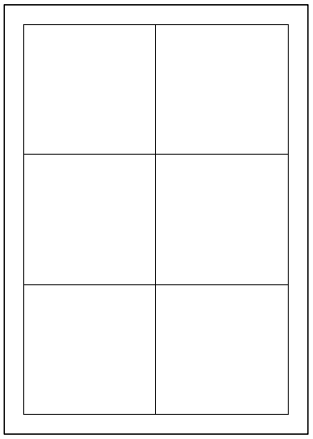
16 That is, characterised by "serious purpose, dignity, logical organisation [and] length" (Harmon, 2003, p. 193).

their heads they have a picture of what's going on" (00:08:12 - 00:09:14). She acknowledged, too, that creating mental images from poetry can be challenging: the non-prosaic form of the language of poetry, "because it's a little bit abstract and it's not just telling you in full sentence form what's going on…can be hard to follow" (00:08:12 - 00:09:14).

The students read, silently, their copies of *The Killer* (supplied during a previous lesson) before Catherine explained and managed the completion of the comprehension activity. Each student was given a sheet of A4 paper divided into six boxes:



As the poem consists of seven stanzas, the students would need to "draw the very last picture on the back" (00:24:01 - 00:26:24). Catherine read, aloud, the first stanza of *The Killer*. As she read, each student completed a 'quick-draw' in the top-left box of "what is in your head at the time when you read that verse, what do you think it's describing?" (00:13:07 - 00:14:12). Catherine then provided a brief explanation of the content of the first stanza to support students' drawing: "So remember it's describing the day; it's describing what the birds are doing; and then it's describing what the person did. So you should have a few different aspects in your little drawing there" (00:14:17 - 00:16:11). The read-aloud-and-quick-draw process was completed for each of the remaining stanzas, with Catherine providing – in response, sometimes, to student input – explanations or questions to prompt

students' thinking and drawing; for example: "[W]hat happens, what do they see in the reeds? What do you think their reaction, the person or the other animal, what is their reaction?" (00:16:11 - 00:18:12). When the process was completed, the students eagerly shared their illustrations of the actors, places and events described in Wright's poem.

Catherine then drew the students' attention to the final stanza of *The Killer* and indicated, via comments and questions, its role vis-à-vis possible meanings of the poem. She indicated, too, the narrative structure of the poem – "So it actually has…a beginning, middle and an end" (00:30:24 - 00:31:33) – before asking the students to "turn and talk" about "messages or themes" (00:31:34 - 00:32:17) that might be conveyed by it. This was followed by whole-class sharing of ideas, with students proposing the following: death, food chain, nature, violence. The students were then required to: "describe the setting in a bit more detail" (00:33:47 - 00:35:07) by listing four suitable adjectives; empathise with the narrator-protagonist and "write an emotion or a feeling or a thought that you think…the person is thinking at the time in each part of the scene" (00:35:18 - 00:38:57); and, finally, "go through each verse one last time and…circle one or two words in each verse that…really helped you…create that image in your mind for each picture" (00:38:57 - 00:45:23). The whole-class-teaching phase of Catherine's lesson, which lasted almost 50 minutes, concluded with students watching a 2-minute YouTube video about the *SPECS and SLIMS* framework (youtube.com/watch?v=3cA8vxSr5Rw). The framework, which offers (a) a clear structure for, and (b) guidelines re the content of, a written analysis of a poem, was introduced by Catherine in a prior lesson and the YouTube video was "just a reminder, it's what we went through in the PowerPoint last lesson" (00:45:23 - 00:49:53).

The students used the remaining 20 minutes of the lesson to "finish off your template" (00:49:53 - 01:05:36). In the previous lesson, they had each received an A3-sized template that included, down the left-hand side, the *SPECS and SLIMS* framework and, down the

right-hand side, spaces to record details from or about the poem that were applicable to the various sections of the framework (see Appendix O). As the students completed their templates, Catherine circulated the classroom: she monitored students' progress, provided feedback to individuals and small groups, and responded to questions.

To conclude the lesson, Catherine directed the students to pack up and, then, flagged the focus of the next lesson: "Next lesson we will just look at how you structure that in essay form…it will be really easy for you now that you understand what you have to comment on because you just do it in that exact order" (01:06:02 - 01:07:59).

Analysis of Lesson

The following analysis of Catherine's lesson is presented in four sections. In the first section, *Analytical synopsis of lesson*, the preceding descriptive synopsis is complemented by three tables that illuminate the structure of Catherine's lesson and, as well, specify the dimensions and categories of the KQ-E that apply to the various elements and moments of her teaching. The second section, *Realisation* describes, in detail, *how* these categories of the KQ-E apply to, or were actualised through, Catherine's pedagogy. The third section, *Implications*, describes those aspects of Catherine's pedagogy that, having been identified through the application of the KQ-E, might be the focus of improvement. In the fourth and final section, *Summary*, the analysis is reviewed and salient findings pertaining to the research questions are presented.

Analytical Synopsis of Lesson

As per Table 43, Table 44 and Table 45, Catherine's lesson consisted of three parts: (1) Literal-level Comprehension of Text (00:02:50 - 00:27:59); (2) Essential-level Comprehension of Text (00:27:59 - 00:45:23); and (3) Application (00:49:53 - 01:07:59). Part 1 of the lesson, Literal-level Comprehension of Text, was comprised of two elements,

INTRODUCTION: RECALLING AND CONNECTING TO PRIOR LEARNING and QUICK-DRAW TASK: ADDRESSES WHOLE CLASS; Part 2 of the lesson, Essential-level Comprehension of Text, was comprised of one element, EXTENSION TASKS: ADDRESSES WHOLE CLASS, and several sub-elements; and Part 3 of the lesson, Application, was comprised of one element, CIRCULATE AND SUPPORT. Each (sub-)element was characterised by a particular type of teaching (e.g., directive, guided), and consisted of several moments of teaching. The boundaries of each of the 50 moments of teaching that comprised Catherine's pedagogy were defined by the natural flow of the talk that occurred during the lesson. The content of each moment was the subject of analysis, examined for conditions that triggered the applicability of categories of the KQ-E. Table 43, Table 44 and Table 45 show which of the dimensions and categories of the KQ-E apply to each of the 50 moments of teaching. For some, multiple dimensions and/or categories apply.

As per Table 43 (below), the KQ-E applies to Catherine's pedagogy 39 times during Part 1 of the lesson. During this part of the lesson, Catherine recalled prior teaching/learning, addressed the main purpose of the lesson and coordinated the Quick-Draw task. Four dimensions and 15 categories apply to Catherine's teaching in Part 1 of the lesson:

- from Foundation, *Awareness of purpose* (*n* = 5); *Overt display of subject knowledge* (*n* = 3); *Use of English terminology* (*n* = 2); and *Choice of text* (*n* = 1)
- from Transformation, *Use of instructional materials* (*n* = 2); *Choice of representations* (*n* = 2); and *Use of instructional procedures* (*n* = 1)
- from Connection, *Anticipation of complexity* (*n* = 3); *Pedagogical cohesion: Macro-level scaffolding* (*n* = 2); *Pedagogical cohesion: Micro-level scaffolding* (*n* = 9; 1 task-level, 8 point-of-need), *Connections within text* (*n* = 2); *External connectivity: Text-to-self connection* (*n* = 3); *External connectivity: Text-to-world connection* (*n* = 2); and *External connectivity: Text-to-text connection* (*n* = 1)

- from Contingency, *Teacher insight* (*n* = 1)

The framework applies 15 times during the first element of Part 1 of the lesson, INTRODUCTION: RECALLING AND CONNECTING TO PRIOR LEARNING, and 24 times during the second element, QUICK-DRAW TASK: ADDRESSES WHOLE CLASS. Within each of these two elements, a cluster of applicability is discernible: midway through the former, the framework applies 12 times across the four moments from *Directs students* to *Explanation*; and early in the latter, the framework applies 12 times across the six moments from *Explanation* to *Manages task*. Both of these periods of teaching involved pedagogically substantive discourse: informed by a clear purpose, Catherine (a) described the focus/content of the current lesson; (b) connected that focus/content to prior teaching/learning and provided a rationale for it; (c) described the process by which the students would develop their literal-level comprehension of *The Killer*; and (d) provided input that supported the students to complete their drawings of the scene described in the first stanza of the poem. Brophy and Good (1986) and Wilen, Hutchison and Ishler (2008) noted that lesson beginnings affect the potential for student learning. Barry and King (1998) suggested that "a lesson should always have a beginning which gains interest and sets the scene for what is to follow…[by]…[r]eviewing students' knowledge, [p]roviding an overview of the lesson [and] [m]otivating students with an interesting lead-in activity" (p. 136). During the opening phase of the lesson, Catherine engaged her students cognitively, affectively and pragmatically (McGrath, Davies, & Mulphin, 1992), and the quality of this pedagogical activity appears to be captured by the concentrated applicability of the KQ-E to these two periods of teaching.

Table 43

Structure of Catherine's lesson (Part 1: Literal-level Comprehension): Elements, pedagogical contexts, moments of teaching and applicable dimensions and categories of the KQ-E

Part of lesson	Element	Pedagogical context	Moment of teaching (unit of analysis)	Applicable dimension(s) and category(ies) from the KQ-E			
				Foun	Tran	Conn	Cont
Part 1: Literal-level Comprehension of Text (00:02:50 - 00:27:59)	Introduction: Recalling and connecting to prior learning (00:02:50 - 00:13:07)	Directive: Teacher organises/manages students	Instructional monologue: Directs students	None applicable			
			Explanation	AoP			
			Explanation	None applicable			
			Directs students	CoT	UoIM	PC:Mac	
			Explanation	AoP, ODoSK			
			Explanation	AoP, ODoSK		PC:Mac, PC:Mic(PoN)	
			Explanation	ODoSK		AoC: PC:Mic(PoN)	
			Directs students			AoC	
			Directs students			AoC	
			Directs students, explanation	AoP, UoET		AoC	
	Quick-draw task[1]: Addresses whole class (00:13:07 - 00:27:59)	Guided: Teacher supports students to practise a particular skill, or develop a particular understanding	Explanation	AoP, UoET		PC:Mic(PoN)	
			Explanation			PC:Mic(PoN)	
			Explanation			PC:Mic(PoN), CwT, EC:TtSC, EC:TtTC	
			Monitors class, praises students				
			Manages task		CoR	PC:Mic(PoN), EC:TtSC, EC:TtWC	
			Manages task		UoIM, UoIP	AoC, PC:Mic(PoN)	
			Monitors class, praises students		UoIM, UoIP		
			Manages task		UoIM, UoIP		
			Monitors class, praises students, addresses class		CoR	EC:TtSC	
			Manages task				
			Monitors class			AoC, PC:Mic(PoN)	TI
			Manages task			CwT, EC:TtWC	
			Monitors class				

[1] A task-level micro-level scaffold, discussed in the section **Pedagogical cohesion: Micro-level scaffolding**, below.

In Part 2 of the lesson (Table 44, below), the KQ-E applies to Catherine's teaching 17 times. During this part of the lesson, Catherine attempted to support the development of students' essential-level comprehension of the poem by asking them to identify "messages or themes" (00:30:24 - 00:31:33) that Wright may have been addressing in *The Killer*. Three dimensions and 10 categories apply to Catherine's teaching in Part 2 of the lesson:

- from Foundation, *Theoretical underpinning of pedagogy* (*n* = 2); *Awareness of purpose* (*n* = 1); *Identifying pupil errors* (*n* = 1); *Overt display of subject knowledge* (*n* = 2; 1 actual, 1 opportune); and *Use of English terminology* (*n* = 1)
- from Connection, *Pedagogical cohesion: Micro-level scaffolding* (*n* = 4); *Connections within text* (*n* = 1Opp); *External connectivity: Text-to-world connection* (*n* = 2); and *External connectivity: Text-to-text connection* (*n* = 1)
- from Contingency, *Responding to students' ideas* (*n* = 2; 1 actual, 1 opportune)

As per Table 44, a defined pattern of applicability of the KQ-E is less discernible for Part 2 of the lesson. Nevertheless, a cluster of eight cases of applicability across the first three moments of teaching that comprise Part 2 of the lesson intimates the complex – even messy – nature of the pedagogy that Catherine demonstrated from 00:27:59 - 00:31:33. Of the eight cases of applicability, three are opportune, and apply to the first moment of teaching, *Questions class*. These opportune codings reflect the questionable efficacy of the pedagogy Catherine demonstrated at 00:27:59 - 00:28:56, when she first attempted to engage the class with "messages or themes" (00:30:24 - 00:31:33) addressed by the poet Judith Wright in *The Killer*. The four actual codings that follow (applying to the third moment of teaching, *Explanation*, 00:30:24 - 00:31:33) reflect her efforts to recapture the focus, and

rigour, of the lesson. This period of teaching is discussed in detail in the section *Implications*.

Table 44

Structure of Catherine's lesson (Part 2: Essential-level Comprehension): Element and sub-elements, pedagogical contexts, moments of teaching and applicable dimensions and categories of the KQ-E

Part of lesson	Element, sub-element		Pedagogical context	Moment of teaching (unit of analysis)		Applicable dimension(s) and category(ies) of the KQ-E			
						Foun	Tran	Conn	Cont
Part 2: Essential-level Comprehension of Text (00:27:59 - 00:45:23)	Extension tasks: Addresses whole class (00:27:59 - 00:45:23)	Identify themes	Shared Teacher coordinates student input	Questions class		ODoSK(Opp)		CwT(Opp), EC:TtWC	RtSI(Opp)
				Monitors students		None applicable			
		Explicate narrative structure		Explanation		AoP, ODoSK		PC:Mic(PoN), EC:TtTC	RtSI
		Identify themes		Discussion and sharing	Directs students	TUoP			
					Questions students				
		Describe setting	Directive Teacher organises/manages students	Directs students		TUoP	IPE		PC:Mic(PoN), EC:TtWC	
		Describe emotions		Directs students				PC:Mic(PoN)	
		Identify and record evidence		Directs students			UoET	PC:Mic(PoN)	

In Part 3 of the lesson (see Table 45, below), the KQ-E applies to Catherine's pedagogy 28 times. During this part of the lesson, the students applied their learning from Part 1 and Part 2 of the lesson to the process of completing the A3-sized *SPECS and SLIMS* template they had started previously. Catherine circulated the classroom and provided point-of-need support to individuals and small groups. Four dimensions and six categories apply to Catherine's teaching in Part 3 of the lesson:

- from Foundation, *Awareness of purpose* (*n* = 3); and *Use of English terminology* (*n* = 5)
- from Transformation, *Use of instructional materials* (*n* = 1)
- from Connection, *Pedagogical cohesion: Macro-level scaffolding* (*n* = 9); and *Pedagogical cohesion: Micro-level scaffolding* (*n* = 6)
- from Contingency, *Responding to students' ideas* (*n* = 4)

As per Table 45, a regular configuration of applicability of the KQ-E is apparent for Part 3 of the lesson. The categories *Pedagogical cohesion: Macro-level scaffolding* and *Pedagogical cohesion: Micro-level scaffolding* apply to most of the 10 moments *Supports a student*, indicating that Catherine prompted students to recall content/learning from prior lessons and, then, further develop their understanding by applying content/learning from Part 1 and Part 2 of the current lesson. Often, this involved, also, developing students' familiarity with technical terminology, and/or helping them refine their ideas. As per Table 45, the nature of the pedagogy demonstrated by Catherine during Part 3 of the lesson was guided/differentiated, and involved provision of "scaffolds and supports [for]…students…as they develop[ed]…understandings" (Annandale et al., 2004, p. 7). The scaffolding and support that Catherine provided took the form of moment-by-moment transactions, or point-of-need micro-level scaffolds, that prompted the students to actively engage in the process of applying their knowledge, and in which they received the feedback needed to help them meet

the demands of the note-making task. The frequent applicability of the category *Pedagogical cohesion: Micro-level scaffolding (point of need)* to the moments of teaching that comprise Part 3 of the lesson seems to correlate with, or reflect, the guided/differentiated nature of the pedagogy that Catherine demonstrated at this time.

Table 45

Structure of Catherine's lesson (Part 3: Application): Element, pedagogical context, moments of teaching and applicable dimensions and categories of the KQ-E

Part of lesson	Element	Pedagogical context	Discursive moment (unit of analysis)	Applicable dimension(s) and category(ies) from the KQ-E			
				Foun	Tran	Conn	Cont
Part 3: Application (00:49:53 - 01:07:59)	Circulate and support (00:49:53 - 01:07:59)	Guided, differentiated Teacher provides point-of-need support to individuals or small groups of students	Explanation	AoP	UoIM	PC:Mac	
			Directs students	AoP			
			Supports a student			PC:Mac, PC:Mic(PoN)	
			Monitors class	None applicable			
			Supports a student			PC:Mac, PC:Mic(PoN)	
			Monitors student	None applicable			
			Monitors student	None applicable			
			Supports a student	UoET		PC:Mac, PC:Mic(PoN)	
			Supports a student				RtSI
			Monitors a student	None applicable			
			Monitors a student	None applicable			
			Supports a student	UoET		PC:Mac, PC:Mic(PoN)	
			Supports a student	UoET		PC:Mac, PC:Mic(PoN)	
			Supports a student				RtSI
			Supports a student	UoET		PC:Mac	RtSI
			Supports a student	UoET		PC:Mac, PC:Mic(PoN)	
			Monitors a student	None applicable			
			Supports a student				RtSI
			Addresses class	AoP		PC:Mac	

Realisation

This section of the analysis is related to Research Question 2, *What do the categories of the KQ, and any new categories, 'look like' in the context of the pedagogy of subject English? What do they capture?* It is comprised, firstly, of a profile of the dimensions and categories of the KQ-E that apply to the pedagogy demonstrated by Catherine and, then, of detailed descriptions/explanations of *how* the applicable categories of the KQ-E relate to, or were actualised through, her pedagogy, beginning with accounts of the applicability/realisation of the categories from Foundation, followed by similar accounts for the categories from the dimensions Transformation, Connection and Contingency. Lists and tables are regularly used to organise and improve the readability of the material. The accounts of the applicability/realisation of the categories include corroborating data from post-lesson interviews and, also, references to scholarly literature.

Analysis of Catherine's lesson revealed the following KQ-E profile:

Table 46

Frequency count of KQ-E categories for Catherine's Grade 10 English lesson

Dimensions and categories of the KQ-E	Foundation								Transformation					Connection											Contingency			
	Theoretical underpinning of pedagogy	Awareness of purpose	Identifying pupil errors	Overt display of subject knowledge	Use of English terminology	Adherence to textbook	Concentration on procedures	Choice of text	Teacher demonstration	Use of instructional materials	Choice of representations	Choice of examples	Use of instructional procedures	Making connections between procedures	Making connections between concepts	Anticipation of complexity	Recognition of conceptual appropriateness	Decisions about sequencing	Pedagogical cohesion: Macro-level scaffolding	Pedagogical cohesion: Micro-level scaffolding	Connections within text	External connectivity: Text-to-self connection	External connectivity: Text-to-world connection	External connectivity: Text-to-text connection	Responding to students' ideas	Deviation from lesson agenda	Teacher insight	Responding to the (un)availability of tools and resources
CF	2	9	1	5 4 act 1 opp	8	0	0	1	0	3	2	0	1	0	0	3	0	0	11	19 1 TL 18 PoN	3 2 act 1 opp	3	4	2	6 5 act 1 opp	0	1	0
LI													1															
IN																							1					
AP																						3	1					
ES																					1		2					
TF																					2			2				
DF	26 (25 actual, 1 opportune)								6					45 (44 actual, 1 opportune)											7 (6 actual, 1 opportune)			
Total frequency: 84 (81 actual, 3 opportune)																												

Note: CF = Category Frequency; DF = Dimension Frequency; TL = task-level; PoN = point-of-need

Represented graphically, the category frequencies are more discernible:

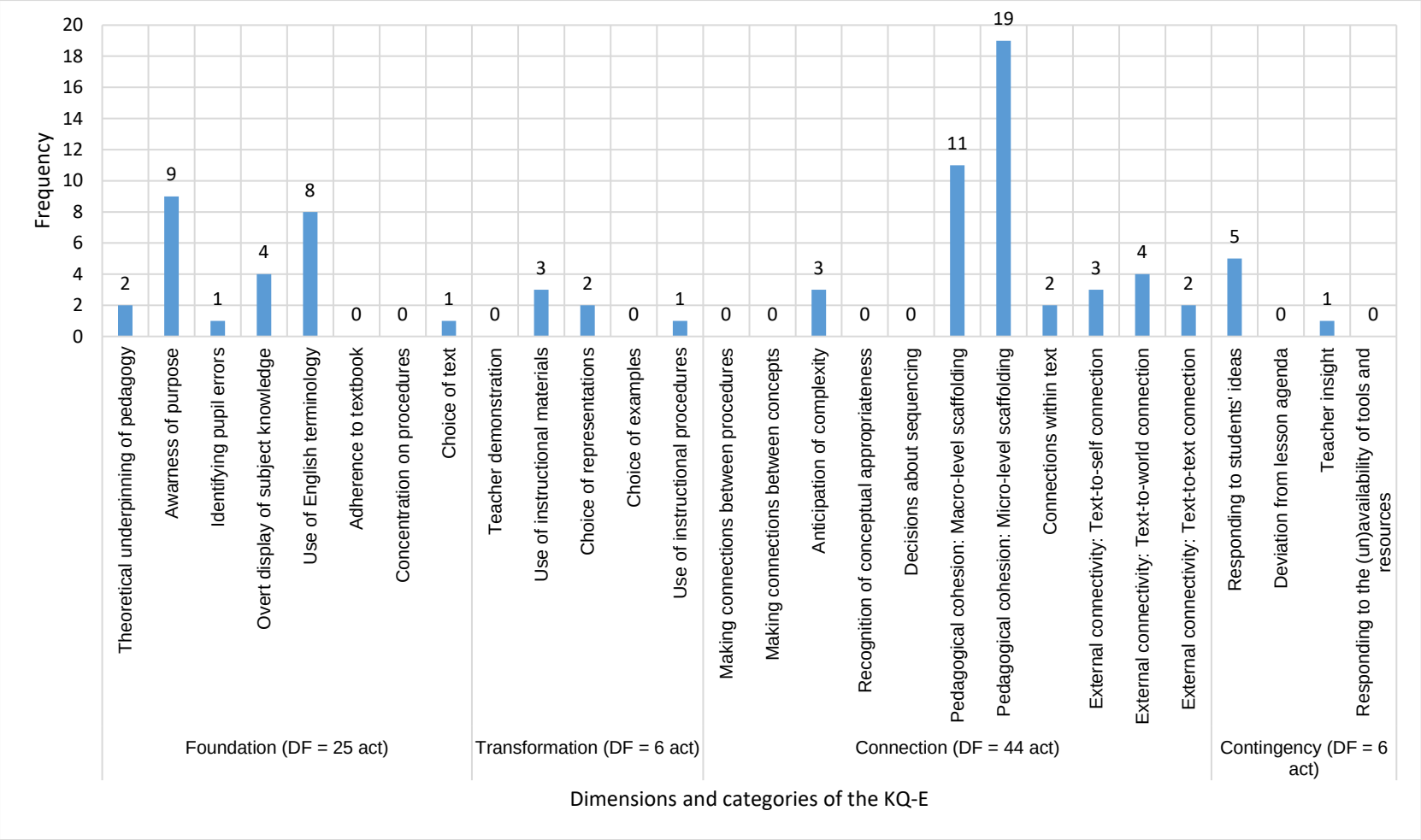


Figure 7. Frequency of KQ-E categories (actual instances only, *n* = 81) for Catherine's Grade 10 English lesson.

As per Table 46 and Figure 7, the KQ-E applied to Catherine's teaching 84 times, with categories from Foundation applying 26 times; categories from Transformation 6 times; categories from Connection 45 times; and categories from Contingency 7 times. *Awareness of purpose, Use of English terminology*; *Pedagogical cohesion: Macro-level scaffolding* and *Pedagogical cohesion: Micro-level scaffolding* are the categories that most apply to Catherine's teaching, while almost half the categories of the KQ-E are not applicable. Across *Connections within text* and the categories of *External connectivity*, the level of comprehension that Catherine's teaching mostly addressed was appreciative. She addressed, also, text form knowledge. As per Table 46, a small number of moments of Catherine's teaching (n = 3) constitute opportune examples of the applicable categories (*Overt display of subject knowledge*; *Connections within text*; *Responding to students' ideas*; discussed later). How the categories of the KQ-E apply to Catherine's teaching is the subject of the next four sections of this chapter.

Foundation: Categories Relevant to Catherine's Teaching

Analysis indicates that Foundation has a Dimension Frequency n = 26 (25 actual, 1 opportune). The categories from the dimension that apply to Catherine's teaching are: *Theoretical underpinning of pedagogy*; *Awareness of purpose*; *Identifying pupil errors; Overt display of subject knowledge*; *Use of English terminology* and *Choice of text*. How each of these six categories from Foundation apply to Catherine's pedagogy is described hereunder. Explanations of the applicability of the categories are made with reference to material from the lesson, and content from post-lesson interviews.

Theoretical underpinning of pedagogy. *Theoretical underpinning of pedagogy* has a Category Frequency n = 2. Each of the teaching episodes coded *Theoretical underpinning of pedagogy* occurred 30 minutes into the lesson and relate to the process of developing students' comprehension of the poem. Reflecting a social-constructivist/Vygotskian (1962,

1978) orientation to learning, Catherine provided the students with a chance to identify the range of themes explored in *The Killer* by asking them to "do a bit of a *turn and talk* [emphasis added] – that is, *sharing with your table* [emphasis added] – …what do you think are…two or three things out of that that Judith Wright the author wanted people to think about?" (00:31:34 - 00:32:17). Vygotsky (1978) argued that knowledge is co-constructed within social contexts and, therefore, that social interaction constitutes the fundamental vehicle of education. The 'turn and talk' was followed by whole-class sharing of ideas, which also reflects the social-constructivist/Vygotskian orientation to learning that appears to provide a theoretical basis for Catherine's pedagogy.

The influence of the social-constructivist/Vygotskian (1962, 1978) paradigm is revealed, too, in Catherine's careful scaffolding of students' learning. The concept of scaffolding (Wood, Bruner & Ross, 1976) "lies very much within a Vygotskian [i.e., social-constructivist] framework" (Hammond & Gibbons, 2001, p. 8). After the students had completed and shared their drawings, Catherine asked, "[H]ow would you *describe* the setting in a bit more detail?" and instructed them to "write maybe four words…around the setting. So four descriptive words that describe the setting" (00:32:50 - 00:35:18). The students also listed words that captured the varying emotional state of the narrator-protagonist and highlighted "one or two words in each verse that…really helped you…create that image in your mind for each picture" (00:38:57 - 00:45:23). Thus, Catherine carefully transitioned (scaffolded) students' representations of their knowledge of *The Killer* from one semiotic mode (illustrations, pictures) to another (words), ready for the following lesson: "Next lesson we will…look at how you structure that in essay form" (01:06:02 - 01:07:59). In post-lesson interview, Catherine explained the decision-making that informed these pedagogical actions: "I thought, 'I don't feel that they have enough language. They have the device, the…technical language, but I don't feel they have enough language'. … I thought, 'How am

I going to get them to be able to use their own descriptive language to describe what's going on in the poem, or mood or atmosphere'. And...that's…when I changed doing this to a visual activity, and then getting them to add their word." Here, Catherine demonstrates her thorough knowledge of the scope of the zone of proximal development that circumscribes her students' potential for learning. Informed by this knowledge, she planned and implemented supports – that is, "problem solving under adult guidance" (Vygotsky, 1978, p. 86) – that extended her students' knowledge and prepared them for the process of writing their style analyses.

Awareness of purpose. *Awareness of purpose* has a Category Frequency $n = 9$. Catherine's references to the purpose of the lesson were, initially, very general, becoming more specific as the lesson progressed. The foremost purpose of the lesson concerned the challenge *The Killer* had presented to the students vis-à-vis their comprehension skills. Having observed, in the lesson prior, that many of the students had struggled to acquire a basic understanding the poem, Catherine's aim was to cultivate their literal-level comprehension of the piece "by using a reading comprehension strategy…creating images" (00:08:12 - 00:09:14)[17]. She acknowledged, in the opening précis of the lesson, the difficulty the students had experienced: "I myself sometimes struggle with interpreting meaning out of poetry when things aren't just sort of black and white written. That's something that is a challenge for me…is something that doesn't come automatically *and probably doesn't for a lot of you* [emphasis added] (00:08:12 - 00:09:14). Catherine reiterated the purpose of the lesson and role of the 'creating images' task several times – for example: "…what I thought that we would have a look at is…just getting really clear in our minds what happens in that poem in each verse" (00:12:10 - 00:13:07) and "Hopefully that [i.e., the 'creating images'

[17] As such, the whole lesson can be considered a macro-level contingent response by Catherine to the challenges she observed the students encountered in the previous lesson. Discussed in the section **Contingency**, below.

task] helped you to…understand in a little bit more detail exactly what happened" (00:30:24 - 00:32:50).

Links between the style analysis task and the teaching/learning requirements specified in the Year 10 section of the *Australian Curriculum: English* (ACARA, 2016a) were not elucidated by Catherine. Nevertheless, the process of analysing Wright's poem does appear to correspond with curriculum expectations: the Year 10 Level Description states that Year 10 students "interpret…evaluate…discuss…literary texts…[that]…explore themes of human experience…within real-world…settings" (p. 102) and Content Descriptor ACELT1774 states that Year 10 students "[a]nalyse and evaluate text structures and language features of literary texts and make relevant thematic…connections" (p. 117). The cognitively demanding processes of analysing, interpreting and evaluating literary text are, of course, predicated on sound literal-level comprehension (Basaraba, Yovanoff, Alonzo & Tindal, 2013; Fellowes & Oakley, 2014; Kiddey & Waring, 2001;), the development of which was the focus of Catherine's instruction.

Identifying pupil errors. *Identifying pupil errors* has a Category Frequency $n = 1$. At 00:33:47 - 00:35:07, a student, talking to a peer, suggested the physical setting of the events described in Wright's poem might be a desert: STUDENT 1: "Where are they?" STUDENT 2: "A desert." Catherine promptly corrected the student, citing evidence from the poem: "Not a desert because remember there's a creek and it's green and mossy and there's bird life. … Where else do you think it could be?" A student responded – "Like a waterhole" – and Catherine validated the response: "Yeah, like a waterhole." Catherine appeared keen to ensure that students' literal-level comprehension of the poem was accurate.

Overt display of subject knowledge. *Overt display of subject knowledge* has a Category Frequency $n = 5$ (4 actual, 1 opportune). Blau (2003) observed that

> [e]xperienced readers know that their first vision of a text may be entirely misdirected or so minimal as to appear worthless. … But they also know that such reading is merely a zero draft, a starting place for a series of rereadings that will gradually yield an increasingly more adequate and illuminating sense of a meaning that they are constructing as they reconstitute the text in front of them. Inexperienced readers may regard all encounters with difficult texts to be worthless, because they have never progressed beyond the inchoate and apparently pointless zero draft represented by their first reading. Thus, based on their experiences, they will declare…that for them the reading of poetry (or most other challenging texts) is [a]…worthless enterprise. (p. 54)

During each of the four moments of teaching actually categorised *Overt display of subject knowledge*, Catherine openly demonstrated her knowledge of the comprehension process. Specifically, she acknowledged, like Blau (2003), that (a) comprehending poetry "is a challenge…is something that doesn't come automatically" (00:09:10 - 00:09:14) and, moreover, that (b) developing a sense of the meaning(s) of a poem requires, often, several (re-)readings. She declared, for example, that *The Killer*'s non-prosaic language might be difficult for students to understand: "[I]t's a little bit abstract and it's not just telling you in full sentence form what's going on" (00:08:12 - 00:09:14). As well, she directed students to "read to yourself that poem *one more time* [emphasis added]" (00:09:14 - 00:09:38) and "to *read it again* [emphasis added] just so you're really clear" (00:10:18 - 00:10:32). In post-lesson interview, Catherine acknowledged, indeed, that *her* comprehension of *The Killer* had developed successively: "I liked the way that poem changed, but I felt like you had to read it a few times so then you would get more and more. When I read it that happened (00:01:02 - 00:01:11).

The opportune instance of *Overt display of subject knowledge* also relates to comprehension. At 00:27:59, Catherine attempted to shift students' understanding of *The Killer* from the literal to the abstract. The transition, however, seemed poorly managed, and appeared to be the result of a blend of partial and/or incoherent knowledge about the range of possible themes explored in the poem and how Wright expresses these within (a) single stanzas and (b) the narrative form of the piece. In short, it appears that Catherine's knowledge of the poem was insufficient for managing, effectively, the transition from literal- to essential-level comprehension. An underdeveloped knowledge base resulted in unproductive pedagogy. Indeed, Catherine acknowledged, in post-lesson interview, that "poetry is probably not my natural strength of understanding. I'm much more of a literal person, I think. … For me, that is out of my comfort zone" (Catherine, post-lesson interview, 03/08/2017, 00:29:10 - 00:29:37). The other opportune codings – one for *Connections within text* and one for *Responding to students' ideas* – also relate to this episode, which is discussed in more detail in the section *Implications*.

Use of English terminology. *Use of English terminology* has a Category Frequency $n = 8$. During the lesson, Catherine routinely used a collection of words and phrases that related to (a) the structure of, and body of literary devices that appeared in, *The Killer*, and (b) the process of comprehending Wright's poem – for example: *adjectives*, *alliteration*, *creating images*, *imagery*, *metaphor*, *onomatopoeia*, *quatrain*, *rhythm*, *setting*, *simile*, *stanza(s)*, *verse(s)*. Catherine and the students had a shared understanding of the meanings of these words and phrases, developed in previous lessons. As such, they had a common language with which to discuss Wright's poem.

Choice of text. *Choice of text* has a Category Frequency $n = 1$, and captures Catherine's selection of the seven-stanza, 28-line rhyming poem *The Killer* (by Judith Wright) for the students to analyse (Appendix P). Her selection of *The Killer* was carefully

considered. When asked during post-lesson interview why she had chosen this text, she identified a number of distinct selection criteria that were informed by the fact that, for many of the students, this was the first time they had been asked to complete a style analysis task of any kind. As per Catherine's comment below, the selection criteria were (a) narrative structure; (b) number/type of stylistic devices; and (c) balance between concrete, easily-imagined actors/settings/events, and abstract ideas:

> I wanted to choose something that had a story that was fairly clear for students. Something that I thought as their first one wasn't too abstract, but still had quite a lot of…stylistic devices in it, and still had a little bit of abstract but not completely. So I wanted something that they could actually picture the story, I guess, was one of the aims for that. (Catherine, post-lesson interview, 00:00:29 - 00:01:01)

Catherine also "liked the way the poem changed, but…felt like you had to read if a few times so then you got more and more. When I read it that happened, so I thought 'Oh! – that would be quite a good one for them to access'. Plus it was fairly short and sharp as well" (Catherine, post-lesson interview, 00:01:02 - 00:01:18).

Catherine's choice of *The Killer*, then, appears to be informed by two important considerations: (a) requirements of the task and (b) student need. In terms of the former, Catherine selected *The Killer* because the ideational/experiential and textual/technical aspects of the poem made it suitable for analysis using the *SPECS and SLIMS* framework; in terms of the latter, she selected Wright's poem according to the level of challenge it presented to students vis-à-vis their comprehension skills, and its potential to be variously interpreted. Thus, a blend of task- and student-focused considerations informed Catherine's selection of *The Killer* and, as discussed under the sections **Transformation: Categories relevant to**

Catherine's teaching and **Connection: Categories relevant to Catherine's teaching** (below), her subsequent pedagogy.

Foundation: Summary

Six categories from Foundation applied to Catherine's pedagogy-of-subject-English: *Theoretical underpinning of pedagogy*; *Awareness of purpose*; *Identifying pupil errors; Overt display of subject knowledge*; *Use of English terminology*; and *Choice of text*. Table 47 reiterates, concisely, how those categories applied thereto.

Table 47

Summary of how six categories from Foundation applied to Catherine's pedagogy

Category	Frequency	Application to Catherine's pedagogy
Theoretical underpinning of pedagogy	2	Catherine's pedagogy reflected Vygotskian (1962, 1978) underpinnings: opportunities for students to 'turn and talk' and careful, well-informed scaffolding indicate a view of "learning [as]…a communicative process whereby knowledge is shared and understandings are [co-]constructed" (Hammond & Gibbons, 2001, p. 8).
Awareness of purpose	9	Catherine stated and regularly reiterated the purpose of the lesson.
Identifying pupil errors	1	Citing evidence, Catherine corrected a student who suggested the physical setting for the events in the poem may be a desert.
Overt display of subject knowledge	5 (4 actual, 1 opportune)	4Opp: Catherine acknowledged that comprehending poetry can be challenging and that comprehension develops across multiple readings of the text. 1Opp: Catherine's knowledge of the poem was insufficient in terms of successfully moving the students from literal to abstract comprehension (discussed below *Implications*).
Use of English terminology	8	Catherine and students had a shared language for discussing the poem, particularly the technical aspects of the work.
Choice of text	1	Catherine selected *The Killer* according to the needs of the students and the requirements of the style analysis task.

Hereunder, the categories from Transformation that apply to Catherine's pedagogy are addressed.

Transformation: Categories Relevant to Catherine's Teaching

Analysis indicates that Transformation has a Dimension Frequency $n = 6$. The categories from the dimension that apply to Catherine's pedagogy-of-subject-English are *Use of instructional materials, Choice of representations* and *Use of instructional procedures*. How each of these categories applies to Catherine's pedagogy is the focus of the following sections of the chapter. As before, explanations of the applicability of the categories are made with reference to material from the lesson, and content from post-lesson interviews.

Use of instructional materials. *Use of instructional materials* has a Category Frequency $n = 3$, indicating that Catherine used three different teaching resources to mediate students' learning. Two of these resources, which Catherine developed herself, were physical, paper-based artefacts on which the students recorded information: an A4 page divided into six boxes (for the 'quick-draw' or storyboarding task), and an A3-sized *SPECS and SLIMS* template (on which the students' noted details from/about the poem). The other resource was digital: a 2-minute animated YouTube video that described/explained the *SPECS and SLIMS* framework. The students had each been supplied with a copy of *The Killer* the previous lesson.

The first of the paper-based artefacts, the A4 page divided into six boxes, supported students' comprehension of the poem by:

a) providing a place to record the mental images they generated when listening to Catherine read each stanza of the poem; and
b) ensuring their completed quick-draw artefacts resembled comic strips (some students included speech bubbles; see 00:20:37 - 00:21:56) or story boards; that is, juxtaposed panels that represented, pictorially, each stanza of *The Killer*, displayed sequentially.

Completed on the A4 page that Catherine had prepared and provided, the quick-draw/storyboarding process developed students' literal-level comprehension of *The Killer* in terms of (a) the content of each stanza, and (b) the story the poem relates, which Catherine emphasised to the class: "So that [i.e., the quick-draw/storyboarding process] helps you to see it is like…a proper story, like a narrative in a way, this poem. … So it actually has…a beginning, middle and an end. The reason we do that is to help you get that overall…message" (00:30:24 - 00:32:50). The quick-draw/storyboarding process, circumscribed by the resource Catherine prepared and provided, illuminated the narrative structure of the poem.

Like the A4 page, the second paper-based resource, the A3-sized *SPECS and SLIMS* template, helped to frame, or scaffold, students' thinking. Known to many English teachers, the acronymically titled *SPECS and SLIMS*[18] framework (Appendix Q) provides a template for analysing poetry and preparing a written account of that analysis.

As Catherine stated, the students had, in the lesson prior, successfully identified the range of literary devices used by Wright – "The thing you were all excellent at was finding those similes, finding the alliteration, that was great…" (00:12:10 - 00:13:07) – and recorded these on their A3 templates beside the Imagery and Sounds components of the *SPECS and SLIMS* framework. Having completed the quick-draw/storyboarding task and discussed the range of possible themes that Wright explores in *The Killer*, the students were then able to return to their templates and record suitable ideas beside the Subject Matter and Purpose sections of the *SPECS and SLIMS* framework. The A3 template provided the students with a place to record, as per the parameters, or scope and sequence, of the framework, their observations about, and reactions to, the poem. The completed template document would

[18] S = *s*ubject matter; P = *p*urpose; E = *e*motion; C = *c*raftsmanship; S = *s*ummary; S = *s*tructure; L = *l*anguage; I = *i*magery; M = *m*ovement; S = *s*ounds.

then form the basis (i.e., first draft) of the final assessment piece – the formal written analysis of Wright's poem *The Killer*. Like the A4 page that circumscribed the story boarding task, the A3 *SPECS and SLIMS* template document helped to scaffold – that is, clarify and configure – students' thinking.

The other resource that Catherine used to mediate students' learning was the animated 'PowToon' video on YouTube that described/explained the *SPECS and SLIMS* framework (youtube.com/watch?v=3cA8vxSr5Rw). Catherine played the video at 00:45:23 - 00:49:53, after the students had recorded adjectives on their story boards (relating to the setting of *The Killer* and the changing emotional state of the narrator-protagonist) and "go[ne] through each verse one last time and…circle[d] one or two words in each verse that…really helped you…create that image in your mind for each picture" (00:38:57 - 00:45:23), and before they completed their A3 templates. She used the video to reiterate the content of the *SPECS and SLIMS* framework: "I'm just going to remind you before you finish off your SPECS and SLIMS what exactly is included just by showing you a short film. … This is just a reminder, it's what we went through in the PowerPoint last lesson" (00:45:23 - 00:49:53). The video appeared to capture the interest of the students. As Rowland et al. (2009) stated, Transformation involves "select[ing] appropriate forms of representation" (p. 36), and Wells (1999) argued that such resources constitute a powerful medium for learning.

Choice of representations. *Choice of representations* has a Category Frequency n = 2. A caveat, however: the option to code each of two questions – posed to the class at 00:18:13 - 00:20:09 and 00:22:07 - 00:24:00 – is tentative. The rationale for this provisional coding relates to agency; that is, *who* is responsible for the choice of representation. In both of these moments, the students, not Catherine, were the agents; however, it was Catherine who prompted the students to consider, "How are you going to draw [represent] 'black horror springing from the dark'?" (00:18:13 - 00:20:09) and "How are you going to draw ['he lies in

his icy glance']?" (00:22:07 - 00:24:00). The KQ-E addresses pedagogy, the actions of the *teacher* that mediate students' learning. While Catherine was not the agent of representation, *her* pedagogical actions prompted the students to assume that responsibility. In post-lesson interview, she offered a clear rationale for deliberately prompting the students to consider their depictions of these metaphors: "[T]here are a few students in this class that are on the autism spectrum. And sometimes they can struggle with…those abstract ideas" (00:09:21 - 00:09:31).

Currently, these two pedagogical moments appear to occupy the space at the limits of the *Choice of representations* category and suggest the definition of the category could be expanded to capture pedagogical activity that motivates students to consider how they can represent their knowledge.

Use of instructional procedures. *Use of instructional procedures* has a Category Frequency $n = 1$. The category captured Catherine's use of the quick-draw/storyboarding process, through which she regulated the students' application of the 'creating images' comprehension strategy. This task/process "provide[d] opportunities for students to practise [the 'creating images' comprehension strategy] with guidance and support" (Annandale et al., 2004, pp. 5-6) and, as such, can be considered a type of Shared/Guided Reading experience, meeting the defining criteria specified by Annandale et al. (2004, p. 7):

- the "[t]eacher scaffolds and supports…students as they read a common text"
- "short session"
- "clearly defined purpose"
- "common need"
- occurred in the context of "multiple readings of the text"
- characterised by "[a] pattern of asking guiding questions, reading, discussing"

Summary: Transformation

Three categories from Transformation applied to Catherine's pedagogy-of-subject-English: *Use of instructional materials*, (tentatively) *Choice of representations* and *Use of instructional procedures*. Table 48 reiterates, concisely, how those categories applied thereto.

Table 48

Summary of how three categories from Transformation applied to Catherine's pedagogy

Category	Frequency	Application to Catherine's pedagogy
Use of instructional materials	3	Catherine used three different resources to mediate students' learning. Two were physical, paper-based artefacts: the A4 page divided into six panels for quick-draw/storyboarding task, and the A3 *SPECS and SLIMS* template, on which students recorded details about *The Killer*. The other was digital: a YouTube video that Catherine used to reiterate to students the content of the *SPECS and SLIMS* framework.
Choice of representations (provisional)	2	Catherine prompted the students to consider how they might depict (represent) two of the metaphors in Wright's poem.
Use of instructional procedures	1	The quick-draw/storyboarding task is a type of Shared/Guided Reading experience.

Hereunder, the categories from Connection that apply to Catherine's pedagogy are addressed.

Connection: Categories Relevant to Catherine's Teaching

Analysis indicates that Connection has a Dimension Frequency $n = 45$ (44 actual, 1 opportune), the highest dimension frequency. The categories from the dimension that apply to Catherine's teaching are: *Anticipation of complexity*; *Pedagogical cohesion: Macro-level scaffolding*; *Pedagogical cohesion: Micro-level scaffolding*; *Connections within text*; *External connectivity: Text-to-self connection*; *External connectivity: Text-to-world connection*; and *External connectivity: Text-to-text connection*. How each of these categories

applies to Catherine's pedagogy is the focus of the following sections of the chapter. Explanations of the applicability of the categories are made with reference to material from the lesson, and content from post-lesson interviews.

Anticipation of Complexity. *Anticipation of complexity* has a Category Frequency *n* = 3. The code applied to those moments of pedagogy wherein Catherine openly recognised that *The Killer* might be difficult for students to comprehend and therefore interceded to prompt their thinking about, and cultivate their comprehension of, the poem.

The first of these moments spans 00:10:18 - 00:13:07. During the introductory phase of the lesson, shortly before the students began the quick-draw/storyboarding task, Catherine acknowledged "it was a tricky poem" (00:12:10 - 00:13:07). Thus, to re-engage the students with the poem and, importantly, to support their developing comprehension of it, she asked the students to read their copies of *The Killer* silently to themselves twice through. Furthermore, to encourage close, careful reading, Catherine asked the students to underline any words or phrases "you don't get" – "just sort of maybe put a little line or something on the verse…if there's something you don't get" (00:11:17 - 00:11:33). Catherine anticipated that re-engaging the students with, and developing their comprehension of, the "tricky poem" required deliberate pedagogical intervention.

At 00:20:10 - 00:21:56, Catherine foresaw that comprehending a particular section the poem would be challenging for many of the students. The first, second and third stanzas of *The Killer* are narrated in first-person perspective (e.g., *I came…*, *I saw…*, *I felt…*), while the fourth stanza is narrated in second-person perspective (*…or else your life itself…*). Anticipating the confusion this change in narrative perspective might cause for some of the students, Catherine provided a clarifying comment: "So it's like someone else has come in and started talking there, isn't it? It's…what they're thinking in their head" (00:20:10 - 00:21:56).

The third moment of Catherine's teaching coded *Anticipation of complexity* occurred at 00:24:42 - 00:26:24. After reading the sixth stanza of the poem to the class (during the quick-draw/storyboarding task), Catherine acknowledged, "That's tricky, that one. It's [i.e., *slipped from his death aside/and vanished into my mind*) not sort of a concrete thing, so how are you going to represent it?" (00:24:42 - 00:26:24). Recognising the ambiguity of the meaning of this line, Catherine articulated a possible interpretation to prompt students' thinking and develop their comprehension of the poem: "It sort of means like she or he is not going to really forget it, yeah? So…the snake's not always going to be there dead, is it? But you remember what happened" (00:24:42 - 00:26:24).

Pedagogical cohesion: Macro-level scaffolding. The category *Pedagogical cohesion: Macro-level scaffolding* has a Category Frequency $n = 11$, the second-highest of the category frequencies. The code applies to moments of teaching wherein Catherine openly connected the content/learning of the current lesson to content/learning from prior lessons; and, moreover, to moments that signal the level of responsibility-for-learning that Catherine devolved to her students, informed by a blend of knowledge of:

a) the cognitive and linguistic demands of the style analysis task and, more specifically, of the cognitive/linguistic demands involved in comprehending *The Killer*; and
b) the efficacy of the pedagogy of the prior lesson and, therefore, the current scope, depth and proficiency of students' requisite knowledge and skills; and
c) the rigour of the scaffolding therefore needed to develop in students the knowledge and skills required to successfully comprehend the poem and complete the style analysis assignment.

During the lesson, Catherine varied, according to these criteria, the level of responsibility-for-learning she devolved to students.

The first moments of teaching to be coded *Pedagogical cohesion: Macro-level scaffolding* occurred during the introductory phase of the lesson, when Catherine explained to the students *how* they were "going to do a reading comprehension strategy" (00:09:14 - 00:09:38): "This lesson will involve a lot of *direct teaching* [emphasis added], as in me talking to you" (00:02:50 - 00:03:18). The pedagogy of English teachers can be characterised according to the relative degree of responsibility assumed by the teacher and students in the learning process (i.e., the GRR model); and here, Catherine's application of a type of Shared/Guided Reading experience, in which she directed how, and the pace at which, the students' applied the 'creating images' comprehension strategy, had a clear pedagogical antecedent: during the lesson prior, she did not apply pedagogical measures that developed, sufficiently, students' literal-level comprehension of *The Killer* – and thus needed to enact a suitable pedagogical response during the current lesson. As Catherine remarked to the students: "I sort of got the feeling that maybe [you] had missed parts of the poem what it meant. So I thought we would take a bit of a back step…just getting really clear in our minds what happens in that poem in each verse" (00:12:10 - 00:13:07). The pedagogical intervention that Catherine developed and implemented comprised a conduit for new learning, through which students' progress was carefully managed: by (a) recognising the potential of the 'creating images' comprehension strategy and (b) directing students' application of that strategy, Catherine was able to successfully remedy the poor comprehension outcomes of the previous lesson. Other teaching moments to be coded *Pedagogical cohesion: Macro-level scaffolding* reflected a greater level of devolution of responsibility-for-learning to the students.

In the latter part of the lesson, when the students were completing their A3 *SPECS and* SLIMS templates, a greater level of control of the learning process was devolved to the students. Of the lesson prior, Catherine remarked to the students: "I was really pleased with

how you started to fill that framework out..” and “The thing you were all excellent at was finding those similes, finding the alliteration, that was great” (00:12:10 - 00:13:07). Thus, when students returned to their A3 *SPECS and SLIMS* templates during the second part of the current lesson – “What I would like you to do now for the rest of the lesson is finish off your template” (00:49:53 - 01:05:36) – the field of knowledge they had developed during, and carried over from, the previous lesson affected a change in the balance of teacher/student responsibility for the learning process: the students were able to assume much greater control of the learning process, while Catherine adopted the role of ‘point-of-need’ facilitator, responding, as needed, to queries from students.

The moments of teaching coded *Pedagogical cohesion: Macro-level scaffolding* reflect two distinct variations of the balance of teacher/student control of the learning process, informed by the pedagogy of, and the learning outcomes achieved by the students during, the previous lesson. During the first part of the lesson, Catherine regulated the students’ application of the ‘creating images’ comprehension strategy; during the second part of the lesson, responsibility for completing the A3 *SPECS and SLIMS* template was devolved to the students.

Pedagogical cohesion: Micro-level scaffolding. The category *Pedagogical cohesion: Micro-level scaffolding* has a Category Frequency *n* = 19 (1 task-level, 18 point-of-need), the highest of the category frequencies. Dansie (2001) noted that, “[m]icro-level scaffolding occurs within the broader macro scaffold” (p. 50). The code applied to moments of teaching that reveal the specific measures – some ‘designed-in’, others ‘point-of-need’ (Sharpe, 2001) – that Catherine took to (a) develop students’ comprehension of *The Killer* and (b) support their completion of the A3 *SPECS and SLIMS* template.

In the first minutes of the lesson, Catherine prepared the groundwork for the scaffolding that would follow by re-engaging the students with *The Killer*: at 00:09:14 -

00:09:38, she directed the students to "read to yourself that poem one more time" and then, at 00:10:18 - 00:10:32, to "read it again just so you're really clear *because this task that we're going to do next* [emphasis added] you will need to have a good understanding." Restoring the field of knowledge provided the basis for supplementary layers of micro-level scaffolding.

The element QUICK-DRAW TASK: ADDRESSES WHOLE CLASS, which Catherine implemented during the latter phase of Part 1 of the lesson (from 00:13:07 - 00:27:59), was a carefully managed task-level micro-level scaffold that developed students' literal-level comprehension of the poem. Moreover, it was, itself, comprised of several point-of-need micro-level scaffolds. Hammond and Gibbons (2001) have noted that "scaffolding needs to be thought of in relation to the…selection and sequencing of tasks and to the specific classroom interactions that are part of those tasks" (p. 6). Within the task-level micro-level scaffold, Catherine, at the appropriate juncture, provided information that supported students' thinking and comprehension:

- at 00:13:07 - 00:14:12, reminded students of the range of literacy devices used by Wright: "[O]ne of the main features it uses is imagery through metaphors, similes and descriptive language."
- at 00:14:17 - 00:16:11, offered prompts related to the content of the first stanza of the poem – "So remember it's describing the day; it's describing what the birds are doing; and then it's describing what the person did" – to support comprehension and drawing.
- at 00:18:13 - 00:20:09, 00:20:10 - 00:21:56 and 00:24:42 - 00:26:24, provided commentary about the poem (including explanatory vignettes and prompting questions) to guide/support students' thinking, comprehension and drawing.

In Part 2 of the lesson, *Pedagogical cohesion: Micro-level scaffolding (point of need)* applies four times, with Catherine implementing measures to support the development of students' essential-level comprehension of *The Killer*:

- the direction, at 00:30:24 - 00:32:50, to "just do a bit of a turn and talk" to verbalise, co-construct and refine "what you think are…messages or themes…in that poem."
- the direction, at 00:32:50 - 00:35:18, 00:35:18 - 00:38:57 and 00:38:57 - 00:45:23, to capture knowledge of the poem verbally: "[W]rite…four descriptive words"; "[I]n each square I want you to write an emotion or a feeling"; "[G]o through each verse one last time and…circle one or two words in each verse."

The direction to students to capture their comprehension of the poem verbally formed a scaffold that supported their completion of the *SPECS and SLIMS* template during Part 3 of the lesson: the students were able to expand the words they had listed or highlighted into detailed notes, which they recorded against the applicable sections of the *SPECS and SLIMS* template. The micro-level scaffolding that Catherine implemented during Part 1 and Part 2 of the lesson meant responsibility for the learning process could be devolved to students during Part 3 of the lesson: "OK, what I would like *you* [emphasis added] to do now for the rest of the lesson is finish off your template" (00:49:53 - 01:05:36).

In Part 3 of the lesson, *Pedagogical cohesion: Micro-level scaffolding (point-of-need)* applies six times. During this part of the lesson, Catherine circulated the classroom and provided support to individuals and small groups as needed – at 00:50:54 - 00:53:10; 00:53:33 - 00:54:11; 00:54:52 - 00:56:42; 00:58:45 - 01:00:20; 01:00:29 - 01:00:49; and 01:03:28 - 01:04:17. Via dialogue, she supported students to recall content/learning from prior lessons, and from Part 1 and Part 2 of the current lesson, and apply this knowledge to the process of completing the A3-sized *SPECS and SLIMS* note-taking framework. As noted in the section *Analytical synopsis of lesson*, the frequent applicability of the category

Pedagogical cohesion: Micro-level scaffolding (point of need) to the moments of teaching that comprise Part 3 of the lesson intimates the guided/differentiated nature of the pedagogy that figured during the final minutes of the lesson.

Micro-level scaffolding, as application of the KQ-E revealed, is a multi-layered component of Catherine's pedagogy. Her micro-level scaffolding encompassed "the…selection and sequencing of tasks and…the specific classroom interactions that [were] part of those tasks" (Hammond & Gibbons, 2001, p. 6). Furthermore, through these multiple layers of scaffolding, Catherine realised "a progression of teaching practices ranging from high levels of teacher control with a gradual release of responsibility leading to high[er] levels of student control" (Department of Education, 2016, p. 69).

Connections within text. *Connections within text* has a Category Frequency $n = 3$ (2 actual, 1 opportune). The code applies, actually, to moments of Catherine's teaching wherein she supported students' comprehension of *The Killer* by illuminating facets of the internal logic of the piece (the opportune example is discussed in the section *Implications*, below). Both of these moments addressed text form knowledge; one addressed, also, essential-level comprehension.

The first example of *Connections within text* occurred at 00:16:11 - 00:18:12, when Catherine prompted the students to begin to understand *The Killer* as a chronologically sequenced narrative, with each successive stanza of the poem depicting the next moment of the narrator-protagonist's encounter with the snake: "So think about what just happened in the last one [first stanza]…and then think about…what happens, what do they see in the reeds?" This prompt was offered by Catherine during the quick-draw/storyboarding task, after she had read the second stanza of the poem to the class and students were completing their corresponding images on the A4 sheet. As per the section **Use of instructional materials** (above), one of the aims of this task was to illuminate the narrative form, or

structure, of the poem. Awareness of text structure, Annandale et al. (2004) noted, is a component of text form knowledge, a body of knowledge that concerns the "purpose, organisation, structure and language features of…texts", and which "allow[s] students to determine how to read and understand…text" (p. 95). Text structure, they stated, "refers to the way ideas, feelings or information is linked within a text" (e.g., chronologically); moreover, "[i]t is important for students to understand the types of patterns that are used to link and organise information" (p. 99). By prompting students to consider the 'chronology-of-events' connection between the first and second stanzas, Catherine began to illuminate for students the narrative character of *The Killer* and, therefore, develop a component of their text form knowledge – and, thence, their understanding of the poem.

The second moment of Catherine's teaching coded *Connections within text* occurred at 00:26:25 - 00:27:59. After reading the last stanza of the poem to the class, Catherine highlighted the final line – *and the ants came out to the snake and drank at his shallow eye* – and prompted the students to consider the significance of that "part of the story": "So that's a really important part of the poem because that is part of the message or the theme. So that last bit…what does that mean? That's a really important part of the story." Catherine's use of 'story' possibly reminded students of the narrative character of *The Killer* – that is, of the 'chronology-of-events' connections between the stanzas – thus consolidating, perhaps, their text form knowledge of the poem. She emphasised, also, the role of the final stanza vis-à-vis the ideational logic of the piece: "that's a really important part of the poem because that is part of the message or the theme" (00:26:25 - 00:27:59). As such, this moment of *Connections within text* addresses, also, students' essential level of comprehension: Catherine prompted the students to consider the 'big ideas' they might draw from the text.

External connectivity: Text-to-self connection. *External connectivity: Text-to-self connection* has a Category Frequency $n = 3$. The moments of teaching coded *External*

connectivity: Text-to-self connection occurred during the quick-draw/storyboarding task. All addressed appreciative-level comprehension (personal reaction to the text, places the reader in the story); one addressed, also, inferential comprehension ('reading between the lines', deduction based on details provided in the text). The details of the teaching moments to be coded *External connectivity: Text-to-self connection* are presented in Table 49.

Table 49

Details of teaching moments coded External connectivity: Text-to-self connection

Time	Description	Explanatory note	
00:16:11 - 00:18:12	After reading the first stanza of *The Killer* to the class, Catherine asked the students to consider, "What do you think their reaction, the person…what is their reaction?"	**Text-to-self connection**	Prompted the students to empathise with the narrator-protagonist; that is, to place themselves in the text and consider how they would react in similar circumstances.
		Level of comprehension	Prompted comprehension of the text at the appreciative level.
00:18:13 - 00:20:09	After reading the third stanza of *The Killer* to the class, Catherine prompted students' thinking: "Could be…or it could be that they've fallen over because of how she's felt the clutch of the earth, but it could be…she might tense. It's up to you how you interpret it."	**Text-to-self connection**	Prompted the students to empathise with the narrator-protagonist; that is, to place themselves in the text and consider how they would react in similar circumstances.
		Level of comprehension	Prompted comprehension of the text at the appreciative level.
00:22:07 - 00:24:00	After reading the fifth stanza of *The Killer* to the class, Catherine circulated the room and praised students' drawings: "I like your expression on their faces, it's good. It shows really what they're thinking and feeling."	**Text-to-self connection**	Commended students' efforts to empathise with the narrator-protagonist.
		Level of comprehension	Legitimised students' comprehension of the text at the inferential and appreciative level.

External connectivity: Text-to-world connection. The category *External connectivity: Text-to-world connection* has a Category Frequency $n = 4$. The moments of teaching coded *External connectivity: Text-to-world connection* occurred during the quick-draw/storyboarding task. Two addressed essential-level comprehension; one addressed inferential-level comprehension; the other addressed appreciative-level comprehension. The

details of the teaching moments coded *External connectivity: Text-to-world connection* are presented in Table 50.

Table 50

Details of teaching moments coded External connectivity: Text-to-world connection

Time	Description	Explanatory note	
00:18:13 - 00:20:09	After reading the third stanza of *The* Killer to the class, Catherine asked the students: "How are you going to draw 'black horror springing from the dark'? How will you draw that? What do you imagine in your head when you hear that?"	**Text-to-world connection**	Prompted the students to bring their knowledge of snakes to the text to visualise "black horror [a snake] springing from the dark".
		Level of comprehension	Inferential: Prompted the students to make a deduction (i.e., that "black horror" is a snake) about the meaning of this line of the poem.
00:26:25 - 00:27:59	After reading the seventh stanza of *The Killer* to the class, Catherine said to the students: "So that's a really important part of the poem because that is part of the message or the theme." She then asks: "So, that last bit, 'and the ants come out to the snake and drink at his shallow eye' – what does that mean?"	**Text-to-world connection**	Prompted the students to bring their knowledge of the world to the poem to visualise ants feeding on the dead snake.
		Level of comprehension	Essential: Encouraged the students to connect this image to the "message or the theme of the poem"; that is, to connect this image to the 'big idea(s)' that might be drawn from the text.
00:27:59 - 00:28:56	During whole-class discussion that followed completion of the quick-draw/storyboarding task, Catherine attempted to clarify the meaning/significance of the final stanza of *The Killer*: "So why do you think I said…those last few lines are important to the story?...Why do you think it's important about the ants? Why are the ants mentioned?...Continues the food chain, circle of life, OK?"	**Text-to-world connection**	Prompted the students to bring their knowledge of the world to the poem to visualise ants feeding on the dead snake.
		Level of comprehension	Essential: Connected this image to one of the 'big ideas' that might be drawn from the poem.
00:32:50 - 00:35:18	During whole-class discussion that followed completion of the quick-draw/storyboarding task, Catherine asked the students, "What do you think the person could see around them other than the snake? What could they hear? Think about those five senses."	**Text-to-world connection**	Prompted the students to empathise with the narrator-protagonist and to connect their own experiences of the natural world with the setting described in the poem; to place themselves in, and bring their background knowledge to, the text.
		Level of comprehension	Prompted comprehension of the text at the appreciative level.

External connectivity: Text-to-text connection. The actual cases of *Connections within text* (described above) were co-coded *External connectivity: Text-to-text connection* (Category Frequency $n = 2$): in both cases, Catherine likened the chronologically sequenced events related in *The Killer* to the format of a narrative – and thus addressed text form knowledge. At 00:16:11 - 00:18:12, she prompted the students to begin to understand *The Killer* as a narrative, with each successive stanza of the poem depicting the next moment of the narrator-protagonist's encounter with the snake: "So think about what just happened in the last one [first stanza]…and then think about…if it is a person…what happens, what do they see in the reeds?" At 00:30:24 - 00:32:50, Catherine openly likened the content of *The Killer* to the generic structure of a narrative: "So that actually helps you to see it is like…a proper story, like a narrative…this poem. … So it actually has…a beginning, middle and an end."

Connection: Summary

Seven categories from Connection applied to Catherine's pedagogy-of-subject-English: *Anticipation of complexity*; *Pedagogical cohesion: Macro-level scaffolding*; *Pedagogical cohesion: Micro-level scaffolding*; *Connections within text*; *External connectivity: Text-to-self connection*; *External connectivity: Text-to-world connection*; and *External connectivity: Text-to-text connection*. In the context of *External connectivity*, three levels of comprehension (inferential, appreciative and essential) and text form knowledge – were addressed by Catherine. Table 51 reiterates, concisely, how categories from Connection applied to Catherine's teaching. It catalogues, also, the levels of comprehension that were addressed by Catherine in the context of *External connectivity*.

Table 51

Summary of how seven categories from Connection apply to Catherine's pedagogy

Category	Frequency	Application to Catherine's pedagogy
Anticipation of complexity	3	Catherine recognised that comprehension of *The Killer* would be challenging for students, and therefore interceded before and during the quick-draw/storyboarding task to prompt students' thinking and develop their comprehension of the work.
Pedagogical cohesion: Macro-level scaffolding	11	Catherine varied the level of responsibility for the learning process that was devolved to the students according to (a) task demands, (b) efficacy of prior pedagogy and (c) rigour of the scaffolding needed to support learning.
Pedagogical cohesion: Micro-level scaffolding	19 (1 task-level, 18 point-of-need)	Catherine applied micro-level scaffolds "within the broader macro scaffold" (Dansie, 2001, p. 50), including: commentary about the poem; direction to students to 'turn and talk'; direction to students to capture their knowledge of the poem verbally ("…write…four descriptive words").
Connections within text	3 (2 actual, 1 opportune)	2 actual: Catherine illuminated the internal logic of *The Killer* by highlighting the nature of the connection between stanzas and the narrative structure of the piece. Addressed a component of text form comprehension. 1 opportune: Catherine failed to unpack the narrative structure of the piece (discussed below under **Potential of the KQ-E**).
External connectivity: Text-to-self connections	3	Catherine prompted the students to empathise with the narrator-protagonist. Addressed appreciative level of comprehension.
External connectivity: Text-to-world connections	4	Catherine prompted the students to bring their knowledge of the world to the text. Addressed inferential, appreciative and essential levels of comprehension.
External connectivity: Text-to-text connections	2	Catherine compared the structure of *The Killer* to the generic structure of a narrative. Addressed a component of text form comprehension.

Hereunder, the categories from Contingency that apply to Catherine's pedagogy are addressed.

Contingency: Categories Relevant to Catherine's Teaching

Analysis indicates that Contingency has a Dimension Frequency $n = 7$, with two of the categories from the dimension relevant to Catherine's pedagogy-of-subject-English: *Responding to students' ideas* ($n = 6$; 5 actual, 1 opportune) and *Teacher insight* ($n = 1$). The moments of Catherine's teaching coded *Responding to students' ideas* and *Teacher insight*

appear, generally, to be low-level (i.e., straightforward, uncomplicated, qualitatively unsophisticated) examples of these types of practices[19]. One of the codings for *Responding to students' ideas* was opportune. Below, explanations of the applicability of the categories are made with reference to material from the lesson, and content from post-lesson interviews.

Responding to students' ideas. The category *Responding to students' ideas* has a Category Frequency $n = 6$ (5 actual, 1 opportune; the opportune coding is addressed in the section *Implications*, below). The five moments of Catherine's teaching actually coded *Responding to students' ideas* occurred during the latter phase of the lesson, when students were completing their A3 *SPECS and SLIMS* templates. Catherine circulated the classroom and responded, as needed, to comments and questions presented by students. Her responses tended toward *acknowledge and incorporate* – as follows:

- 00:30:24 - 00:35:18, as part of a delayed reaction to a comment from a student – "I only just found out it was a snake" – at 00:27:50 - 00:28:56, acknowledged and incorporated ideas volunteered by students regarding the possible essential-level meanings of the poem following a 'turn and talk' exercise: "Death. Yep, good. So death, food chain, nature. … Violence, yes."
- 00:56:45 - 00:57:22, in response to a question from a student about the focus/requirements of the Emotion section of the *SPECS and SLIMS* framework, acknowledged and incorporated the student's input: [STUDENT: "Um, is there emotive language, like…is that what it means?"] "Yes, so emotive language is when it's

[19] Nevertheless, while the nature of these moments of micro-level contingency appears to be relatively uncomplicated, Catherine's macro-level contingent response (i.e., the quick-draw/storyboarding task) to the difficulties the students' experienced comprehending *The Killer* in the previous lesson was, qualitatively, very sophisticated, demonstrating her judicious application of knowledge bases associated with Foundation, Transformation and Connection. Hence, there may, perhaps, be a place for a category *Macro-level contingency* in the Contingency dimension of the KQ-E.

pretty strong, creates emotions. … Can you find any emotive language in there?" [STUDENT: "Isn't, like, 'violence'…"] "Yes…that's a very strong word, isn't it? 'Icy glance' even is sort of emotive language, isn't it?"

- 01:00:54 - 01:01:17, in response to a question from a student about the focus/requirements of the Summary section of the *SPECS and SLIMS* framework, acknowledged and incorporated the student's input: "So…it's…about…your opinion of the poem."
- 01:02:10 - 01:03:24, in response to students' questions about the focus/requirements of the Structure section of the *SPECS and SLIMS* framework, acknowledged and incorporated the students' input: "So have a look at the poem. Get it out. … So, again, how many…stanzas are there?" [STUDENT: "Seven."] "Seven. So that's part of the structure. And how many lines in there? … In each verse?" [STUDENT: "Four."] "Yeah, so that's the first thing you can write: seven verses or stanzas and four lines in each." (Note that Catherine did not then augment this discussion to include details of the narrative structure of the poem; the exchange was limited to the number and form of the stanzas.)
- 01:05:09 - 01:05:39, in response to a student's question about the focus/requirements of the Language section of the *SPECS and SLIMS* framework, acknowledged and incorporated the student's input: [STUDENT: "In Language…?] "What style is the language? Is it full sentences? Is it all grammatically correct? Or is it a little bit different to that? … Yeah, so descriptive language, well done."

Teacher insight. *Teacher insight* has a Category Frequency $n = 1$. The moment of Catherine's teaching co-coded *Teacher insight* (with *Anticipation of complexity*) occurred during the quick-draw/storyboarding task, at 00:24:42 - 00:26:24, when a student asked, "Why does it say 'banished into my mind'?" The student's question indicates potential for

learning (i.e., zone of proximal development) and, recognising this, Catherine provided an explanation to help clarify the student's understanding of this line of the poem: "Oh, why does it? Tricky, isn't it? … It sort of means like she…is not going to really forget it, yeah? So although…the snake's not always just going to be there dead, is it? But you remember what happened."

Contingency: Summary

Two categories from Contingency applied to Catherine's pedagogy-of-subject-English: *Responding to students' ideas* and *Teacher insight*. Table 52 reiterates, concisely, how those categories applied thereto.

Table 52

Summary of how two categories from Contingency applied to Catherine's pedagogy

Category	Frequency	Application to Catherine's pedagogy
Responding to students' ideas	6 (5 actual, 1 opportune)	4 actual: Catherine responded to comments and questions that were presented by the students. In each of the exchanges, she acknowledged and incorporated the students' ideas. 1 opportune: Catherine failed to respond cogently to input from a student (discussed below under **Potential of the KQ-E**).
Teacher insight	1	Catherine recognised a student's potential for learning and provided a response to clarify the student's comprehension of *The Killer*.

Realisation: Summary

Catherine's lesson with her Grade 10 students consisted of three parts: (1) Literal-level Comprehension of Text; (2) Essential-level Comprehension of Text; and (3) Application. The content and organisation of the lesson was shaped by a pedagogical imperative – captured by the category *Awareness of purpose* – related to students' comprehension skills: having observed, in the previous lesson, that many had struggled to

develop a basic understanding of Judith Wright's seven-stanza, 28-line rhyming poem *The Killer*, Catherine's aim was to develop students' literal-level comprehension thereof "by using a reading comprehension strategy…creating images" (00:08:12 - 00:09:14) and, then, to develop their essential-level comprehension of the piece. The students would then apply their newly-developed knowledge to the completion of the A3-sized *SPEC and SLIMS* note-taking frameworks. When describing these objectives to the class, Catherine often referenced the content of, and the challenges that many of the students had experienced, in the previous lesson – "'Oh, it was a tricky poem', and when I talked to some people…I sort of got the feeling maybe they had missed parts of the poem what it meant" (00:12:10 - 00:13:07) – and these moments were (co-)coded *Pedagogical cohesion: Macro-level scaffolding*. Catherine's decision to select *The Killer* for students to analyse had been carefully considered, and was captured by the category *Choice of text*.

Catherine's pedagogy included opportunities for students to marshal, develop and apply their knowledge through social interaction. Moreover, these opportunities took place within a framework of scaffolded tasks. Vygotsky (1978) argued that knowledge is co-constructed in social contexts and, therefore, that social interaction constitutes the fundamental vehicle of education; and scaffolding, Hammond and Gibbons (2001) noted, "lies very much within a Vygotskian framework" (p. 8). Additionally, Catherine demonstrated, in post-lesson interview, her knowledge of the scope of the zone of proximal development that circumscribed her students' potential for learning. The moments of Catherine's pedagogy that illuminated these conceptual underpinnings were captured by the KQ-E category *Theoretical underpinning of pedagogy*.

The scaffolding that Catherine implemented to support her students' learning was (co-)captured, too, by the categories *Use of instructional procedures* and *Pedagogical cohesion: Micro-level scaffolding (task-level* and *point-of-need)*. Informed by the outcomes of the

lesson prior (see the criteria listed in the section **Pedagogical cohesion: Macro-level scaffolding**, above), these moments comprised – and, captured by *Awareness of complexity*, reflected Catherine's recognition of the need for – a pedagogical context in which the level of teacher support provided to students was carefully managed. Initially, the level of support, or 'rigidity' of the scaffolding, provided by Catherine was comparatively high: by carefully managing completion of the Quick-Draw task (a task-level micro-level scaffold), she "provide[d] opportunities for students to practise [the 'creating images' comprehension strategy] *with guidance and support* [emphasis added]" (Annandale et al., 2004, pp. 5-6) and, therefore, ensured that students' literal-level comprehension of *The Killer* was accurate. The "guidance and support" that Catherine provided took the form, often, of questions that prompted the students to draw connections between their own experiences and the content of the poem. These moments were coded *External connectivity: Text-to-self connection* and/or *External connectivity: Text-to-world connection*.

Catherine's attempt to develop students' essential-level comprehension of the poem was, initially, unsuccessful. She did, however, recapture the focus, and rigour, of the lesson via three directions to students in the latter phase of Part 2 of the lesson that were coded *Pedagogical cohesion: Micro-level scaffolding (point of need)*.

During Part 3 of the lesson, as the students completed their A3 *SPECS and SLIMS* note-taking frameworks, Catherine circulated the classroom and provided support to individuals and small groups as needed. These moment-by-moment interactions, or contingent/point-of-need micro-level scaffolds, were co-captured by the category *Pedagogical cohesion: Micro-level scaffolding (point-of-need)*. Through dialogue, Catherine supported students to recall content/learning from prior lessons, and from Part 1 and Part 2 of the current lesson, and apply that knowledge to the process of completing the *SPECS and SLIMS* framework. External dialogue, Vygotsky (1962, 1978) argued, becomes the resource

for independent thinking. As students 'talked their way through' prompting questions posed by Catherine, they developed and marshalled the knowledge needed to complete their *SPECS and SLIMS* templates, including the technical lexes needed to describe, analyse and express ideas and feelings about Wright's poem.

During the lesson, Catherine routinely used a collection of subject-specific words and phrases related to: (a) the structure of, and body of literary devices that appeared in, *The Killer*; (b) the process of comprehending Wright's poem; and (c) the process of analysing the piece. Catherine and the students had a shared understanding of the meanings of these words and phrases, developed in previous lessons. As such, Catherine was able to use a body of subject-specific terminology knowing that students would understand those words and phrases. She regularly encouraged the students to apply this vocabulary, too. Catherine's use of technical terminology was captured by the KQ-E category *Use of English terminology*.

Other categories of the KQ-E applied to Catherine's pedagogy: from Foundation, *Identifying pupil errors* and *Overt display of subject knowledge*; from Transformation, *Use of instructional materials* and *Choice of representations*; from Connection, *Connections within text* and *External connectivity: Text-to-text connection*; and from Contingency, *Responding to students' ideas* and *Teacher insight*. Multiple dimensions and categories were clustered on those moments of teaching that, as pedagogically critical junctures of the lesson, involved substantive teacher talk. The chapter now turns to those aspects of Catherine's pedagogy that application of KQ-E suggested might be the focus of improvement.

Implications

Application of the KQ-E to the pedagogy-of-subject-English demonstrated by Catherine illuminated knowledge bases and teaching practices that appeared to positively impact students' English learning. Most obviously, the application of the framework elucidated her awareness of, and responsiveness to, the needs of her students. The content

and processes of the observed lesson were predicated on a pedagogical antecedent: during the lesson prior, Catherine had not applied measures that supported her students to develop, fully, their literal-level comprehension of *The Killer*. Her recognition of this – "I sort of got the feeling that maybe [you] had missed parts of the poem what it meant" – and the measures she implemented in response – "So I thought we would take a bit of a back step…just getting really clear in our minds what happens in that poem in each verse" (00:12:10 - 00:13:07) – were captured by a range of categories, including *Awareness of purpose, Use of instructional procedures* and *Pedagogical cohesion: Macro-level scaffolding*; and suggest, moreover, that a category *Macro-level contingency* could, perhaps, be added to the KQ-E.

Catherine's sensitivity to her students' needs is reflected, also, in her selection of *The Killer* for analysis. Captured by *Choice of text*, her decision to select Wright's poem was based, in part, on student-focused considerations, including that (a) many of the students were hitherto unfamiliar with the purpose and process of completing a style analysis task, and (b) the linguistic and ideational complexity of the piece correlated with students' comprehension skills: "I wanted to choose something that had a story that was fairly clear for students. Something that I thought as their first one wasn't too abstract…still had a little bit of abstract but not completely. So I wanted something that they could actually picture the story, I guess, was one of the aims for that" (Catherine, post-lesson interview, 00:00:29 - 00:01:01). Like Grace and Zahra, Catherine appeared cognisant of students' needs. Moreover, she reconciled this awareness with pedagogical purpose and processes. Her sensitivity to students' needs, and capacity to use this knowledge to inform, or shape, different categories of pedagogical activity, provides further evidence for inclusion of a category *Knowledge of students* in the KQ-E. Application of the KQ-E also highlighted aspects of Catherine's pedagogy that could be the subject of professional conversations that might enhance teaching and learning.

Throughout the preceding analysis, reference is made to three opportune codings that have been applied to Catherine's teaching, one for each of the categories *Foundation: Overt display of subject knowledge*; *Connection: Connections within text*; and *Contingency: Responding to students' ideas*. These codings indicate the potential of the KQ-E to highlight teaching practices – and their underlying knowledge bases – that, if explored, discussed and developed through collegial dialogue, might augment the efficacy of Catherine's pedagogy. This section of the chapter describes and explains the moment of the lesson to which the opportune codings relate (Table 53), and proposes how Catherine might develop her knowledge bases and teaching practices to improve student learning.

Table 53

The moment of teaching to which three opportune codings apply

Moment of the lesson: Time, brief description, transcript	Opportune codings that apply		
	Foundation: Overt display of subject knowledge	**Connection: Connections within text**	**Contingency: Responding to students' ideas**
00:27:59 - 00:28:56 By posing questions to the class, Catherine attempted to clarify the meaning and significance of the final stanza of *The Killer*, as follows: "So why do you think I said that part that last those last few lines are important to the story?" [Student: "Because it tells you the snake. I only just found out it was a snake."] "Oh. … Why do you think it's important in the story about the ants? Why are the ants mentioned?" [Student: 'Because they come and eat it.'] "They do, they eat the snake. So it's sort of talking about, yes? Continues the food chain, circle of life, OK? So, one thing dies, then things feed on that. Goes around. So first of all the snake looked like the killer but in the end someone killed the snake and then the little ants fed on the snake, so that's an important sort of message around nature, that's one of the themes."	Catherine may lack comprehensive knowledge of a range of (a) possible interpretations of the poem and (b) themes explored in the poem.	Catherine fails to clearly explicate the narrative structure* of *The Killer* and link the content of each structural element to development of students' essential-level comprehension of the poem. *Narrative structure of *The Killer*: Stanzas 1 and 2: Orientation: Introduces setting and characters (narrator-protagonist and snake) Stanzas 3, 4 and 5: Complication: Major action of the poem/narrative, narrator-protagonist kills the snake Stanzas 6 and 7: Resolution: Narrator-protagonist reflects on the meaning of the encounter with the snake	Catherine fails to recognise that students' literal-level comprehension of the poem may still be tenuous ("I only just found out it was a snake") and to respond appropriately.

This moment of the lesson was characterised by a marked drop in the rigour of the scaffolding that Catherine applied to the learning process. Hitherto, Catherine bore responsibility for control of the learning process: knowing (a) the cognitive/linguistic demands of comprehending *The Killer* and (b) the current scope, depth and proficiency of students' requisite knowledge and skills, *she* directed students' application of the 'creating images' comprehension strategy through careful management of the quick-draw/storyboarding task. At 00:27:59 - 00:28:56, however, as the focus of the lesson moves from literal- to essential-level comprehension of the poem, that rigorous scaffolding appears

to fall away: the controlled, linear teaching-learning process quickly morphs into a fluid exercise and experience – because, it seems, of the limited corpus of intellectual resources that Catherine is able to bring to bear on the situation. Had Catherine been equipped with (a) comprehensive knowledge of a range of possible meanings of the poem and (b) a clearer sense of the relationship between the seven stanzas and narrative structure of the piece (as per Figure 8, below), she may have been able to (a) respond cogently to students whose literal-level comprehension of *The Killer* remained tenuous; and, moreover, (b) effectively scaffold the transition from literal- to essential-level comprehension of the work[20]. The following could be suggested to Catherine during a professional conversation:

In preparation for the lesson

- Develop knowledge of the narrative structure of the poem and possible essential-level meanings. With a colleague, co-develop (a) a type of top-level structure diagram (e.g., Figure 8) that situates the seven stanzas of the poem within a narrative structure and (b) a list of possible 'big ideas' Wright explores in *The Killer*, and justify these essential-level interpretations with reference to material from the poem.

During the lesson

Apply the whole-part-whole strategy (Strickland, 1998) to the development of students' essential-level comprehension of *The Killer*:

- Clarify students' knowledge of the structure of the poem: Referring to applicable material (e.g., Figure 8, which could be written on the whiteboard), explain the connection between the seven stanzas and narrative structure of the poem. As part of

[20] Catherine did regain more control of this transition. As per the section **Responding to students' ideas** (above), at 00:30:24 - 00:32:50 she asked the students to "just do a bit of a turn and talk" about possible essential-level meanings of the poem. Students then volunteered their ideas in a whole-class discussion.

this discussion, highlight – or ask the students to identify – the range of nouns and pronouns that Wright applies to the snake: *him* (second stanza); *Black horror* (third stanza); *him* and *him* (fourth stanza), *he* and *his* (fifth stanza); *enemy*, *He* and *his* (sixth stanza); and *He, he*, *nimble enemy, snake* and *his* (seventh stanza).

- Read the poem to the class.

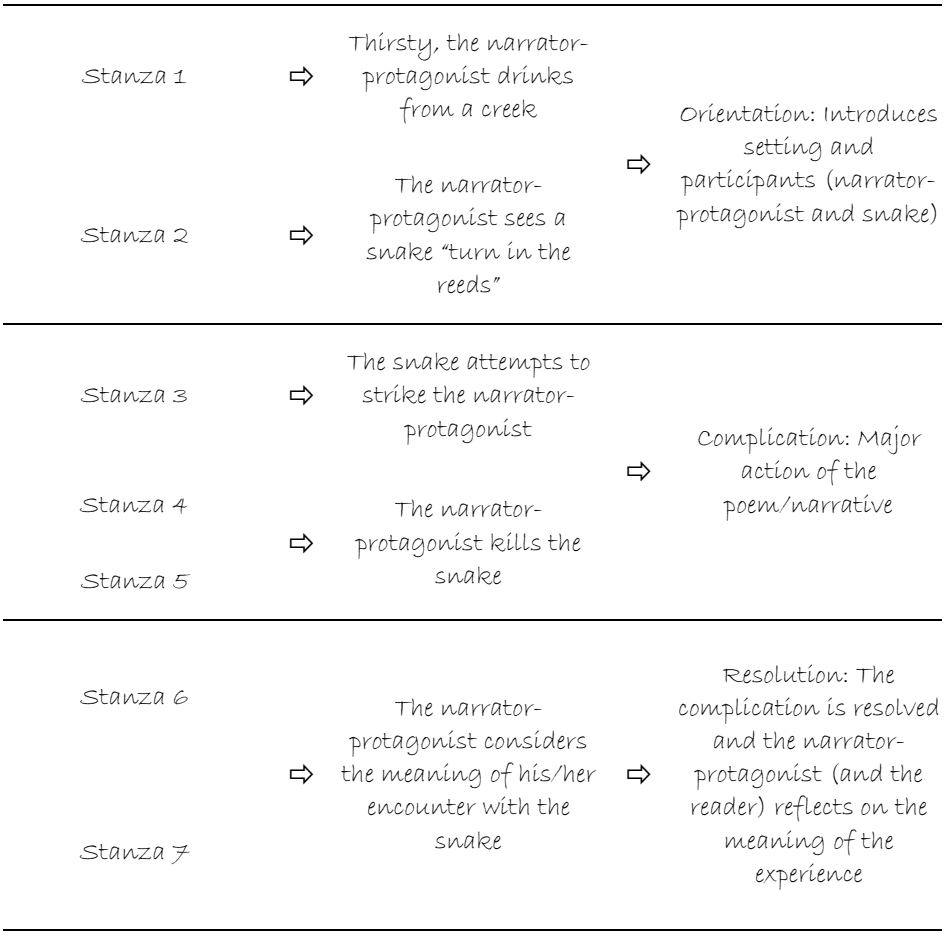


Figure 8. Possible explanation of the connection between the seven stanzas and narrative structure of *The Killer*.

- Develop students' essential-level comprehension of the poem: Highlight the phrases that indicate the possible 'big ideas' Wright explored in *The Killer*:
  - third stanza: *Black horror, violent, clutch of earth*
  - fourth stanza: *beat him into the ground, strike him till he dies, your life itself/drains*
  - fifth stanza: *I struck, clear and dead*
  - sixth stanza: *slipped from his death aside, vanished into my mind*
  - seventh stanza: *vanished whence he came, ants come out to the snake/and drink at his shallow eye*

Ask the class: "Consider the highlighted words in the third stanza: 'Black horror', 'violent' and 'clutch of earth'. What are the 'big ideas' to which Judith Wright could be alluding with those words?" Give the students one minute of silent think time to marshal their ideas; follow with 'turn and talk'; then whole-class sharing. During whole-class sharing, record (on the whiteboard) and support/augment students' ideas.

- Divide the class into four groups. Assign stanza four to one of the groups; stanza five to another of the groups, and so on. Ask each group to respond to the question: "Consider the highlighted words in your stanza. What are the 'big ideas' that Judith Wright could be alluding to with those words?" Give the students one minute of silent think time to marshal their ideas; follow with group discussion; then whole-class sharing. During whole-class sharing, record and support/augment students' ideas.
- Re-read the poem to the class.

Link students' comprehension of the poem (and notes recorded on the whiteboard) to the requirements of the style analysis task:

- Refer students to the Subject Matter, Purpose and Structure sections of their A3 *SPECS and SLIMS* templates and explain they are able to refer to the information recorded on the whiteboard to complete these sections of their templates (model the process if necessary): for Subject Matter, provide a summary of the story the poem relates (see Figure 8); for Purpose, select the 'big ideas' that resonate with you and list these on your template; for Structure, explain the connection between the seven stanzas and narrative structure – orientation, complication, resolution – of the poem.

Summary: The *Knowledge Quartet – English* and Catherine's Pedagogy-of-Subject-English

The pedagogy that Catherine, a teacher of 10 years' experience, applied during an English lesson with her Year (Grade) 10 high school students was described and analysed. Catherine devoted the bulk of the lesson, the second in a sequence of three, to scaffolding the development of her Grade 10 students' literal- and, to a lesser degree, essential-level comprehension of the poem *The Killer* by Australian poet Judith Wright. The focus of the lesson was defined by a pedagogical antecedent and, responding appropriately, Catherine enabled her students to develop the knowledge and skills needed to prepare a formal written analysis of Wright's poem, framed by the requirements of the *SPECS and SLIMS* framework.

In relation to Research Question 1, *To what extent is the content of the KQ applicable to the pedagogy of subject English?*, analysis revealed that 10 categories from the framework developed by Rowland et al. (2005, 2009) were applicable to Catherine's pedagogy:

- from Foundation, *Theoretical underpinning of pedagogy*; *Awareness of purpose*; *Identifying pupil errors*; *Overt display of subject knowledge*; and *Use of English terminology*
- from Transformation, *Use of instructional materials* and *Choice of representations*
- from Connection, *Anticipation of complexity*
- from Contingency, *Responding to students' ideas* and *Teacher insight*

Eight of the categories that emerged in the course of this research, and which have been added to the original KQ to form the KQ-E, applied to Catherine's pedagogy:

- from Foundation, *Choice of text*
- from Transformation, *Use of instructional procedures*

- from Connection, *Pedagogical cohesion: Macro-level scaffolding*; *Pedagogical cohesion: Micro-level scaffolding*; *Connections within text*; *External connectivity: Text-to-self connection*; *External connectivity: Text-to-world connection*; and *External connectivity: Text-to-text connection*

These categories, indicated in the list below by an asterisk (*), capture pedagogical activity that appears to be characteristic of the pedagogy of subject English.

Ten categories were not, it seemed, applicable to Catherine's pedagogy: from Foundation, *Adherence to textbook* and *Concentration on procedures*; from Transformation, *Teacher demonstration* and *Choice of examples*; from Connection, *Making connections between procedures*; *Making connections between concepts*; *Recognition of conceptual appropriateness*; and *Decisions about sequencing*; and from Contingency, *Deviation from lesson agenda* and *Responding to the (un)availability of tools and resources*.

Analysis revealed that Connection (Dimension Frequency n = 45; 44 actual, 1 opportune) is the dimension of the KQ-E that most applied to Catherine's pedagogy, followed by Foundation (Dimension Frequency n = 26; 25 actual, 1 opportune), Contingency (n = 7; 6 actual, 1 opportune) and Transformation (n = 6). Below, the 18 categories that pertained to Catherine's pedagogy are ranked in descending order according to frequency of applicability:

- *Pedagogical cohesion: Micro-level scaffolding* (n = 19; 1 task-level, 18 point-of-need)*
- *Pedagogical cohesion: Macro-level scaffolding* (n = 11)*
- *Awareness of purpose* (n = 9)
- *Use of English terminology* (n = 8)
- *Responding to students' ideas* (n = 6; 5 actual, 1 opportune)
- *Overt display of subject knowledge* (n = 5; 4 actual, 1 opportune)
- *External connectivity: Text-to-world connection* (n = 4)*

- *Use of instructional materials* (*n* = 3)
- *Anticipation of complexity* (*n* = 3)
- *Connections within text* (*n* = 3; 2 actual, 1 opportune)*
- *External connectivity: Text-to-self connection* (*n* = 3)*
- *Theoretical underpinning of pedagogy* (*n* = 2)
- *Choice of representations* (*n* = 2)
- *External connectivity: Text-to-text connection* (*n* = 2)*
- *Identifying pupil errors* (*n* = 1)
- *Choice of text* (*n* = 1)*
- *Use of instructional procedures* (*n* = 1)*
- *Teacher insight* (*n* = 1)

In relation to Research Question 2, *What do the categories of the KQ, and any new categories, 'look like' in the context of the pedagogy of subject English? What do they capture?*, the two sets of data that pertain to the lesson – (a) the results of the application of the KQ-E and (b) corroborating evidence gathered post-lesson – indicated, overall, that Catherine's pedagogy reflects, strongly, a social-constructivist/Vygotskian (1962, 1978) orientation to learning:

- her teaching practices support communicative processes by which knowledge is co-constructed; and
- responsive to "where [her] learners are 'at' – that is, of what [her] learners know (or do not know)" (Hammond & Gibbons, 2001, p. 5), she appears able to judge, accurately, the configuration of the scaffolding needed to move her students from A to B – that is, from the lower to the upper limits of their zones of proximal development.

The interactive-scaffolded program of instruction that Catherine orchestrated was guided by a pedagogical imperative (captured by *Awareness of purpose*) that was, itself, informed by a pedagogical antecedent: during the lesson prior, Catherine failed to apply pedagogical measures that developed, sufficiently, students' literal-level comprehension of *The Killer* – and she needed, therefore, to enact a suitable pedagogical response during the current lesson. The lesson was characterised by her application of a type of Shared/Guided Reading, the element QUICK-DRAW TASK: ADDRESSES WHOLE CLASS, which involved helping the students to picture, mentally, and then document, the content of the poem. This process included the provision of comments and questions that prompted the students to make connections between (a) the content of *The Killer* and their knowledge and experiences of the world and (b) the sequence of events related in *The Killer* and the orientation-complication-resolution structure of a narrative. These moments of teaching were captured by the categories *External connectivity: Text-to-world connection*, *External connectivity: Text-to-self connection* and *External connectivity: Text-to-text connection*. The category *Choice of representations* might apply, also, to two moments of teaching that occurred in this part of the lesson. These two moments of applicability are the only cases of the category relating to, or being realised in, the body of pedagogy demonstrated by the four teachers – Grace, Zahra, Christopher and Catherine. Application is provisional due to questions of agency: in both of the cases to which the code has been applied, it was the students, not Catherine, who made 'choices of representation'; though it was Catherine's pedagogical actions that prompted such activity on the part of the students. Perhaps, therefore, the category could be expanded to capture, also, pedagogical activity that prompts students to make choices regarding how they will express their knowledge.

In relation to Research Question 3, *What potential might a KQ for subject English have, or demonstrate, to enhance the pedagogy of teachers of subject English?*, application of

the framework to the pedagogy demonstrated by Catherine illuminated dynamic relationships between knowledge bases and categories of teaching activity. Those relationships, or knowledge-practice nexuses, informed the shape and substance of a pedagogical context that appeared to positively impact students' English/literacy learning. Application of the KQ-E intimated, moreover, Catherine's sensitivity toward the needs of her students – further indicating the potential for a category *Knowledge of students* to be included in the KQ-E.

Three opportune codings suggested that Catherine misjudged – or was unable to provide – the level of support that was needed to move her students from literal- to satisfactory essential-level comprehension of *The Killer*. This might have been the consequence of underdeveloped knowledge of a range of possible meanings of the poem. While these opportune codings highlight – possibly to Catherine's discomfiture – a moment of teaching that appeared relatively ineffective, they also emphasise the potential of the KQ-E to elucidate teachers' pedagogy and provide a catalyst for professional conversations that improve teaching and learning. A summary of the chapter follows.

Chapter Summary

Framed by the research questions, the chapter documented the results of application of the KQ-E to the pedagogy-of-subject-English demonstrated by four teachers – Grace, Zahra, Christopher and Catherine. For each teacher, an equivalent body of pedagogy was analysed. The four analyses were similarly presented. Following a descriptive and, then, analytical synopsis, the section *Realisation* described and discussed instances of applicability of the KQ-E. Next, the section *Implications* acknowledged (a) the categories of pedagogical activity – and, indeed, the conceivable links between them – that appeared to support learning, and (b) opportune codings that applied to the teacher's pedagogy and, thence, opportunities to develop teaching practice. Finally, each analysis concluded with a summary, in which salient findings were briefly re-presented.

In each of the four analyses, the section *Realisation* opened with a table and graph that mapped the frequency of applicability of each of the categories of the KQ-E that applied to the teacher's pedagogy. Tallying the frequencies included in each of these tables and graphs, and presenting the combined data in a summary table and graph, provides a means of concluding this chapter.

As per Table 54 (below) and Figure 9 (below), the dimension of the KQ-E that most frequently applied to, or most regularly captured aspects of, the teachers' pedagogy was Connection (Dimension Frequency n = 175; 174 actual, 1 opportune), followed by Foundation (Dimension Frequency n = 118; 115 actual, 3 opportune), Contingency (Dimension Frequency n = 46; 44 actual, 2 opportune) and Transformation (Dimension Frequency n = 27). The category that most regularly applied to the teachers' pedagogy was *Pedagogical cohesion: Micro-level scaffolding* (from Connection, Category Frequency n = 91; 12 task-level, 79 point-of-need), followed by *Awareness of purpose* (from Foundation, Category Frequency n = 48) and *Responding to students' ideas* (from Contingency, Category Frequency n = 43; 41 actual, 2 opportune). Five categories have a Category Frequency n = 0, indicating, it seems, their lack of applicability to the pedagogy demonstrated by the teachers:

- from Foundation, *Concentration on procedures*
- from Connection, *Making connections between procedures, Recognition of conceptual appropriateness* and *Decisions about sequencing*
- from Contingency, *Deviation from lesson agenda*

Across the categories *Use of instructional procedures, Pedagogical cohesion: Micro-level scaffolding*; *Connections within text*; *External connectivity: Text-to-self connection*; *External connectivity: Text-to-world connection*; *External connectivity: Text-to-text connection*; and *Responding to students' ideas*, students' comprehension of text was addressed. Essential-level comprehension received most of the teachers' attention. Literal-,

appreciative- and inferential-level comprehension, and text form knowledge, were also addressed.

Table 54

Summary table: Tallied frequencies for each of the KQ-E categories

Dimensions and categories of the KQ-E	Foundation								Transformation					Connection											Contingency			
	Theoretical underpinning of pedagogy	Awareness of purpose	Identifying pupil errors	Overt display of subject knowledge	Use of English terminology	Adherence to textbook	Concentration on procedures	Choice of text	Teacher demonstration	Use of instructional materials	Choice of representations	Choice of examples	Use of instructional procedures	Making connections between procedures	Making connections between concepts	Anticipation of complexity	Recognition of conceptual appropriateness	Decisions about sequencing	Pedagogical cohesion: Macro-level scaffolding	Pedagogical cohesion: Micro-level scaffolding	Connections within text	External connectivity: Text-to-self connection	External connectivity: Text-to-world connection	External connectivity: Text-to-text connection	Responding to students' ideas	Deviation from lesson agenda	Teacher insight	Responding to the (un)availability of tools and resources
TCF	15	48	11	14 12 act 2 opp	24 23 act 1 opp	1	0	5	6	11	3	2	5	0	8	5	0	0	34	91 12 TL 79 PoN	3 2 act 1 opp	3	20	11	43 41 act 2 opp	0	1	2
TDF	118 (115 actual, 3 opportune)								27					175 (174 actual, 1 opportune)											46 (44 actual, 2 opportune)			

	LI	IN	AP	ES	TF
Use of instructional procedures	1				
Pedagogical cohesion: Micro-level scaffolding	5			6	
Connections within text				1	2
External connectivity: Text-to-self connection			3		
External connectivity: Text-to-world connection		1	2	4	
External connectivity: Text-to-text connection			1		3
Responding to students' ideas	2			3	
Deviation from lesson agenda	**7**	**1**	**6**	**14**	**5**

Total frequency: 366 (360 actual, 6 opportune)

Note: CF = Total Category Frequency; TDF = Total Dimension Frequency; TL = task-level; PoN = point-of-need

Represented graphically, the category frequencies are more discernible:

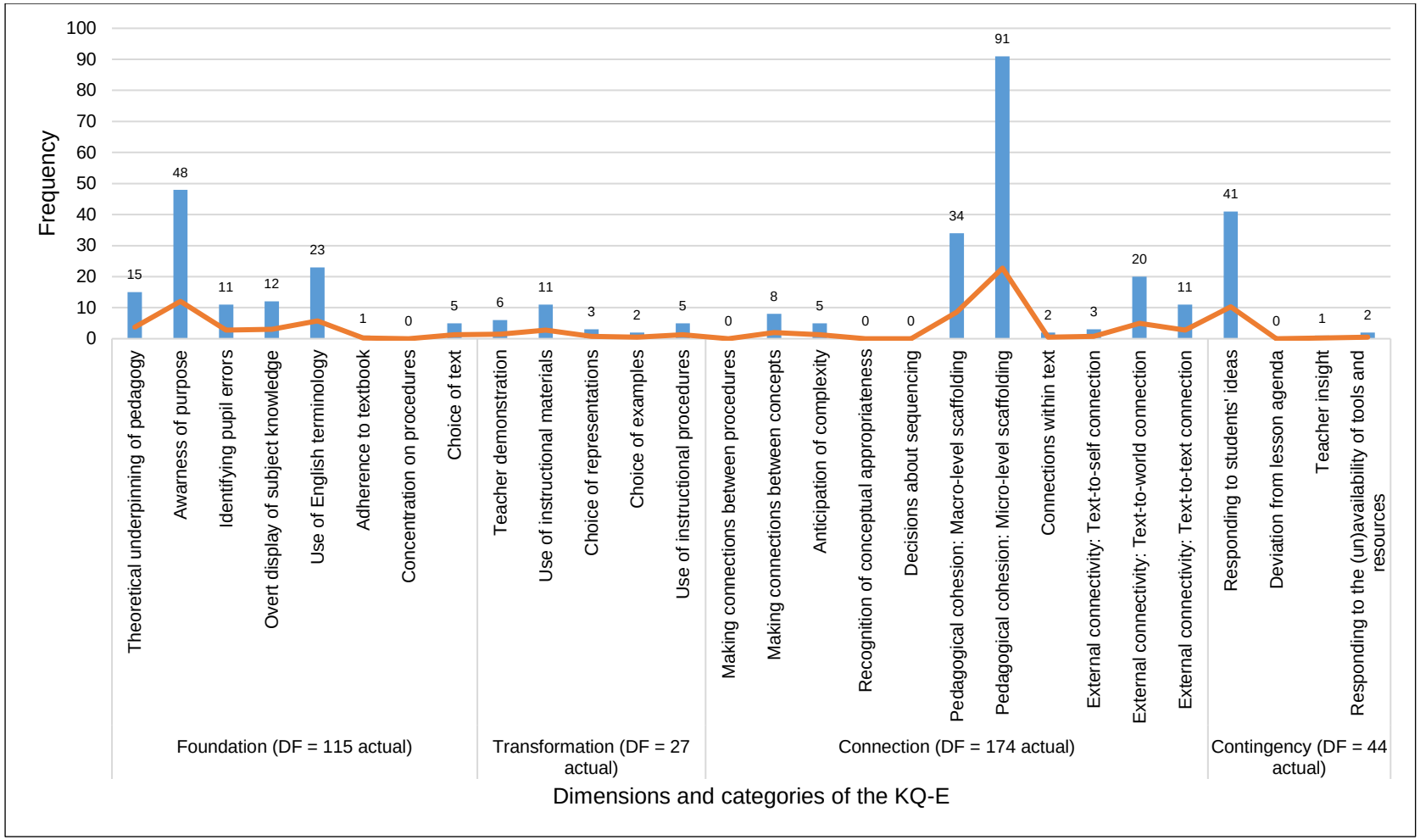


Figure 9. Summary graph: Tallied frequencies for each of the KQ-E categories (actual instances only, *n* = 360); average frequency per lesson indicated by the orange line.

Application of the KQ-E to the pedagogy-of-subject-English demonstrated by Grace, Zahra, Christopher and Catherine revealed findings pertinent to each of the research questions. Vis-à-vis Research Question 1, *To what extent is the content of the KQ applicable to the pedagogy of subject English?*, analysis revealed that all but five of the categories of the framework developed by Rowland et al. (2005, 2009) were applicable to, or captured, aspects of the pedagogy demonstrated by the four teachers during their English lessons. Emerging in the course of the research, eight categories that capture pedagogical activity seemingly distinctive to the pedagogy of subject English were added to the original KQ to form the KQ-E.

The number of more applicable (n =15) and less applicable (n = 5) categories of the original, 20-category KQ can be expressed, also, as a proportion of the total number of categories of the KQ-E. The KQ-E includes 28 categories – the 20 that comprise the original KQ, and the eight that emerged in the course of the research. As a proportion of these 28 categories, the 20 categories of the original KQ = 71.4% (53.4% applicable, 17.9% non-applicable), and the eight categories that emerged in the course of the research = 28.6%. As a proportion of the number of *applicable* categories of the KQ-E (n = 23), the 15 categories from the original KQ = 65.2%, and the eight categories that emerged in the course of the research = 34.8%.

These figures indicate *how much* of the content of the original KQ was applicable to pedagogy of subject English demonstrated by Grace, Zahra, Christopher and Catherine: with 15, or 75%, of the categories applying – comprising 53.4% of the 28 categories of the KQ-E, and 62.5% of the 23 applicable categories of the KQ-E – the capacity of the original KQ to capture the scope of pedagogy demonstrated by the teachers was manifest.

To fully appreciate the extent of applicability of the original KQ to the English/literacy pedagogy demonstrated by Grace, Zahra, Christopher and Catherine, details

about *how much* of the content of the framework was relevant to their teaching must, now, be accompanied by details of *how often* that content pertained, or *frequency of applicability*. Such details were presented throughout the *Realisation* sections of the four analyses, and collated in Table 54 and Figure 9. Below, the total category frequencies (actual instances) from Table 54 and Figure 9 are listed in Table 55 and, moreover, expressed proportionately (i.e., via percent demonstration, necessary because of the different number of categories within each dimension). Table 55 includes the following:

- the Total Category Frequency (actual instances) for each of the 28 categories of the KQ-E;
- for each of the 28 categories, Total Category Frequency expressed as a percentage of (a) Total Dimension Frequency (actual instances) and (b) Total Frequency (actual instances, *n* = 360); and
- for the original KQ categories within each dimension, subtotals of: (1) the total category frequencies (actual instances); and (2) the total category frequencies expressed as a percentage of (a) Total Dimension Frequency (actual instances) and (b) Total Frequency (actual instances, *n* = 360).

The data presented in Table 55 indicate that:

- in Foundation, the seven categories of the original KQ account for 95.7% of Total Dimension Frequency (*n* = 115 actual) and 30.6% of Total Frequency (*n* = 360 actual)
- in Transformation, the four categories of the original KQ account for 81.5% of Total Dimensions Frequency (*n* = 27) and 6.1% of Total Frequency (*n* = 360 actual)
- in Connection, the five categories of the original KQ account for 7.5% of Total Dimension Frequency (*n* = 174 actual) and 3.6% of Total Frequency (*n* = 360 actual)

- in Contingency, the four categories of the original KQ account for 100% of Total Dimension Frequency (n = 44 actual) and 12.2% of Total Frequency (*n* = 360 actual)

Table 55

Category frequencies expressed as percentages of Total Dimension Frequency (actual instances) and Total Frequency (actual instances, n *= 360)*

Dimension	Category	Total Category Frequency (actual instances)	Total Category Frequency as a % of	
			Total Dimension Frequency	Total Frequency (actual instances, *n* = 360)
Foundation (TDF *n* = 115 actual)	Theoretical underpinning of pedagogy	15	13.0	4.2
	Awareness of purpose	48	41.7	13.3
	Identifying pupil errors	11	9.6	3.1
	Overt display of subject knowledge	12	10.4	3.3
	Use of English terminology	23	20.0	6.4
	Adherence to textbook	1	0.9	0.3
	Concentration on procedures	0	0.0	0.0
	Subtotal	**110**	**95.7**	**30.6**
	Choice of text	5	4.3	1.4
	Total	**115**	**100.0**	**31.9**
Transformation (TDF *n* = 27)	Teacher demonstration	6	22.2	1.7
	Use of instructional materials	11	40.7	3.1
	Choice of representations	3	11.1	0.8
	Choice of examples	2	7.4	0.6
	Subtotal	**22**	**81.5**	**6.1**
	Use of instructional procedures	5	18.5	1.4
	Total	**27**	**100.0**	**7.5**

Connection (TDF *n* = 174 actual)	Making connections between procedures	0	0.0	0.0
	Making connections between concepts	8	4.6	2.2
	Anticipation of complexity	5	2.9	1.4
	Recognition of conceptual appropriateness	0	0.0	0.0
	Decisions about sequencing	0	0.0	0.0
	Subtotal	**13**	**7.5**	**3.6**
	Pedagogical cohesion: Macro-level scaffolding	34	19.5	9.4
	Pedagogical cohesion: Micro-level scaffolding	91	52.3	25.3
	Connections within text	2	1.1	0.6
	External connectivity: Text-to-self connection	3	1.7	0.8
	External connectivity: Text-to-world connection	20	11.5	5.6
	External connectivity: Text-to-text connection	11	6.3	3.1
	Total	**174**	**100.0**	**48.3**
Contingency (TDF *n* = 44 actual)	Responding to students' ideas	41	93.2	11.4
	Deviation from lesson agenda	0	0.0	0.0
	Teacher insight	1	2.3	0.3
	Responding to the (un)availability of tools and resources	2	4.5	0.6
	Total	**44**	**100.0**	**12.2**
	Grand Total	**360**	**-**	**99.9**[1]

[1] Minor variations +/- 100% are due to rounding.

The data presented in Table 55 reveal distinct outcomes regarding the frequency of applicability of the original KQ to the English/literacy pedagogy demonstrated by Grace, Zahra, Christopher and Catherine. Discussed above, the *scope* of applicability of the

framework is broad: the original KQ captured many of the components, or facets, of the teaching 'done' by Grace, Zahra, Christopher and Catherine. Additionally, the *frequency* of its applicability is pronounced: for each of the dimensions Foundation and Transformation, Total Dimension Frequency is comprised, mostly, of the sum of the total category frequencies for each of the original KQ categories therein; for the dimension Contingency, which hosts no additional categories, Total Dimension Frequency is, of course, comprised entirely of the sum of the total category frequencies for each of the (original KQ) categories therein. In Connection, however, the opposite is apparent: therein, Total Dimension Frequency is comprised, mostly, of the sum of the total category frequencies for each of the six categories introduced in the course of the research. The sum of the total category frequencies for *Making connections between concepts* and *Anticipation of complexity* – the two original KQ categories within Connection that applied to the pedagogy demonstrated by Grace, Zahra, Christopher and Catherine — represents 7.5% of Total Dimension Frequency. The remaining 92+% of Total Dimension Frequency is represented in the sum of the total category frequencies for the introduced categories, with *Pedagogical connection: Micro-level scaffolding* accounting for more than 50% of Total Dimension Frequency, and 25% of Total Frequency.

The data presented in the right-hand column of Table 55, 'Total Category Frequency as a % of Total Frequency (actual instances, $n = 360$)', add further meaning to *how often* the categories of the original KQ apply to the English/literacy pedagogy demonstrated by Grace, Zahra, Christopher and Catherine. The data indicate the frequency of applicability of each category as a proportion of Total Frequency. Of the categories of the original KQ, those in Foundation have the highest aggregate value as a proportion of Total Frequency (30.6%; due, primarily, to *Awareness of purpose*, 13.3%), followed by Contingency (12.2%),

Transformation (6.1%) and Connection (3.6%). The aggregate value of the categories of the original KQ as a proportion of Total Frequency is 52.5%.

When these figures are combined with the data for the introduced categories, the overall value of each of the dimensions Foundation and Transformation as a proportion of Total Frequency changes little: the value of Foundation increases from 30.6% to 31.9% (+1.4), and the value of Transformation increases from 6.1% to 7.5% (+1.4). (The value of Contingency does not change, as the dimension hosts no introduced categories.) The value of Connection, however, increases considerably – from 3.6% to 48.3% (+44.7). The aggregate value of the introduced categories as a proportion of Total Frequency is 47.6%.

RQ1:SQ1 asked, *What categories of the existing KQ apply to the pedagogy demonstrated by English teachers?* The summary data presented and described above indicate (a) how many, and which, of the categories of the original KQ applied to the English pedagogy demonstrated by Grace, Zahra, Christopher and Catherine, and (b) how frequently those categories applied – individually and collectively. Most – 15, or 75% – of the categories of the original KQ were applicable to the English pedagogy demonstrated by Grace, Zahra, Christopher and Catherine. In Foundation, six of the seven categories applied and, in terms of frequency of applicability, accounted for 95.7% of the dimension's Total Dimension Frequency and 30.6% of Total Frequency. In Transformation, all of the categories applied, and accounted for 81.5% of the dimension's Total Dimension Frequency and 6.1% of Total Frequency. In Connection, two of the five categories applied, and accounted for 7.5% of the dimension's Total Dimension Frequency and 3.6% of Total Frequency. In Contingency, three of the four categories applied and, as the dimension hosts no introduced categories, accounted for 100% of the dimension's Total Dimension Frequency and 12.2% of Total Frequency. Overall, the 15 categories of the original KQ that pertained to the pedagogy demonstrated by Grace, Zahra, Christopher and Catherine accounted for more

than half of the total number of instances of applicability (actual instances; 189/360, 52.5%), thus demonstrating the broad and pronounced applicability of the extant framework to their pedagogy – and, potentially, to the pedagogy of other English teachers.

RQ1:SQ2 asked *Are there components, or facets, of the pedagogy of subject English that cannot be captured by categories of the KQ, and if so, what revisions can be made to the framework to accommodate these components/facets?* Eight categories were generated-introduced to Rowland et al.'s (2005, 2009) 20-category framework to capture that pedagogical activity that appears distinctive to subject English, thereby creating the KQ-E: (1) *Choice of text*; (2) *Use of instructional procedures*; (3) *Pedagogical cohesion: Macro-level scaffolding*; (4) *Pedagogical cohesion: Micro-level scaffolding*; (5) *Connections within text*; (6) *External connectivity: Text-to-self connection*; (7) *External connectivity: Text-to-world connection*; and (8) *External connectivity: Text-to-text connection*. The aggregate value of these eight introduced categories as a proportion of Total Frequency is 47.6%: together, they accounted for almost half the instances of applicability. Thus, they are, it seems, valid re, and key to capturing, the pedagogy of subject English.

Findings pertaining to Research Question 2, *What do the categories of the KQ, and any new categories, 'look like' in the context of the pedagogy of subject English? What do they capture?*, painted a detailed picture of the nature of the pedagogy of subject English demonstrated by the teachers, including that:

- social-constructivist/Vygotskian notions of learning as a "a communicative process whereby knowledge is shared and understandings are [co-]constructed" (Hammond & Gibbons, 2001, p. 8) informed the teaching-learning process;
- pedagogical intent, and sensitivity to students' needs, informed the application of categories of pedagogical activity;

- carefully coordinated layers of scaffolding were central to the teaching-learning process; and
- cognitive agility, the prompt application of the intellectual resources needed to successfully reconcile student input with pedagogical intent, was a visible aspect of the teaching-learning process.

In relation to Research Question 3, *What potential might a KQ for subject English have, or demonstrate, to enhance the pedagogy of teachers of subject English?*, the value of the KQ-E was demonstrated. The framework illuminated the categories of pedagogical activity – and, moreover, the conceivable links between them – that appeared to support learning, and, via opportune codings, aspects of pedagogy that could be the subject of improvement.

In the next chapter, these findings are discussed in relation to the corpus of scholarly literature reviewed in Chapter 2.

Chapter 5: Discussion

Introduction

In Chapter 4, the results of the application of the KQ-E to the corpus of pedagogy-of-subject-English demonstrated by four teachers – Grace, Zahra, Christopher and Catherine – were documented. Hereunder, those results are discussed with respect to the content of Chapter 2. As McCombes (2020) noted, research "should have some connection with theory in the field [and] be integrated into existing knowledge about the topic" (para. 10). Thus, the chapter seeks to:

a) offer increments of understanding re the generalisability of Rowland et al.'s (2005, 2009) typology, including factors which, seemingly, circumscribed its applicability to the pedagogy-of-subject-English demonstrated by Grace, Zahra, Christopher and Catherine;
b) argue the credibility and viability of the KQ-E;
c) present dimension-level synopses of the results of application of the KQ-E to the pedagogy demonstrated by Grace, Zahra, Christopher and Catherine; and
d) demonstrate the potential of the KQ-E to inform understanding and development of PCK-for-subject-English.

The chapter is comprised, initially, of three main sections, one for each of the research questions. Each section begins with a preamble that orients the reader to the focus of the research question and relevant material from Chapter 2. The first section pertains to RQ1 and its two subsidiary questions: the extent, and conditions, of (non-)applicability of the KQ to the corpus of pedagogy demonstrated by Grace, Zahra, Christopher and Catherine is discussed. Also, the legitimacy of the new, English-specific categories vis-à-vis methodological factors and, as well, the content of PLATO (Grossman et al., 2009) is

addressed. The second section pertains to RQ2. It is divided into four subjections, one for each of the dimensions of the KQ-E – Foundation, Transformation, Connection and Contingency. In each subsection, salient findings vis-à-vis the pedagogical activity captured by the categories within a given dimension of the KQ-E are presented. The third section pertains to RQ3. In this section, the potential of KQ-E-mediated pedagogical reasoning is discussed. Thereafter, an unexpected finding of the study is described before issues and limitations associated with the research methodology are highlighted. Opportunities for additional research are, then, presented, followed by a catalogue of implications of the study vis-à-vis three domains of educational discourse: theory, practice and policy. The chapter is concluded with a brief recount of its content. The thesis is then closed with a précis of the research and short envoi statement.

Review of Research Question 1

Preamble

As per Chapter 2, Rowland (2013) asked, "[C]an a framework for knowledge-in-teaching developed in one subject discipline be legitimately adopted in another?" (p. 40). Mathematics is based on, and concerned with, a body of knowledge that is: (a) objectively knowable; (b) generated and tested according to the principles and processes of rational inquiry; and (c) systematised, organised and exact (Dossey, 1992; Richland, Stigler & Holyoak, 2012). Much of English, by contrast, is based on, and concerned with, a body of knowledge that is: (a) more subjectively knowable; (b) periodically redefined by "a new set of speakers" (Bernstein, 2000, p. 162) or 'knowers' (Maton, 2009, 2010); and (c) approximate, fluid and, even, contested (Applebee, 1974; Grossman, 1990; Grossman & Shulman, 1994; Macken-Horarik, 2011, 2014; Misson, 2012). Thus, 'learning, knowing and doing' in English is different to 'learning, knowing and doing' in Mathematics – implying,

therefore, that English and Mathematics teachers' pedagogies will vary: "[l]earning and instruction are domain specific…the structure and syntax of the subject affect instructional processes and necessitate specific teacher expertise" (Baumert et al., 2010, p. 165).

Given, then, the particularity of the epistemological-pedagogical context in which the KQ is grounded, the process of testing its applicability to a *different* epistemological-pedagogical context might, as Baumert et al. (2010) intimated, occasion opportunities to reconceptualise and reorganise its content: notably, some of its categories might not be applicable to, or realised in, the pedagogy of subject English; similarly, components, or facets, of the pedagogy of subject English might not be capturable by any of its categories, thus motivating development of new classifications. Research Question 1 asked, therefore, *To what extent is the content of the KQ applicable to the pedagogy of subject English?*

Research Question 1: Subsidiary Questions

To address RQ1, two subsidiary questions were developed:

- *What categories of the KQ are applicable to the pedagogy of subject English?*
- *Are there components, or facets, of the pedagogy of subject English that cannot be captured by categories of the KQ; and if so, what revisions can be made to the framework to accommodate those components/facets?*

The first subsidiary question is discussed hereunder.

Review of Research Question 1: Subsidiary Question 1. The KQ consists of 20 categories differentially distributed across four dimensions. Of these 20 categories, 15 (75%) applied to the pedagogy demonstrated by Grace, Zahra, Christopher and Catherine:

- from Foundation: *Theoretical underpinning of pedagogy*; *Awareness of purpose*; *Identifying pupil errors*; *Overt display of subject knowledge*; *Use of English terminology*; and *Adherence to textbook*
- from Transformation: *Teacher demonstration*; *Use of instructional materials*; *Choice of representations*; and *Choice of examples*
- from Connection: *Making connections between concepts*; and *Anticipation of complexity*
- from Contingency: *Responding to students' ideas*; *Teacher insight*; *and Responding to the (un)availability of tools and resources*

The five categories (25%) that analysis indicated were non-applicable to the pedagogy demonstrated by Grace, Zahra, Christopher and Catherine, were:

- from Foundation, *Concentration on procedures*
- from Connection, *Making connections between procedures*; *Recognition of conceptual appropriateness*; and *Decisions about sequencing*
- from Contingency, *Deviation from lesson agenda*

Reasons underlying the apparent non-applicability of these five categories are posited hereunder.

Concentration on procedures. The category might rarely apply to the pedagogy of subject English. Vis-à-vis Mathematics, *Concentration on procedures* captures pedagogical activity that (undesirably) emphasises teaching/learning procedures (e.g., 'To divide two fractions, such as $\frac{1}{2} \div \frac{1}{4} =$?, invert the second faction and multiply' or, when using the vertical algorithm to solve, for example, $55-17 =$?, '5 take 7, can't do; cross out the 5, make it 4; carry the 1, 15 take 7 is 8…') over conceptual understanding (Rowland et al., 2005, 2009; Weston, 2018). Much of the content of subject English, however, is *not* amenable to, or

solvable by, such routine application of established processes, or 'rules': indeed, the 'I before E, except after C' rule, for example, which Carney (1994) described as "[the] supreme, and for many people solitary, spelling rule" (pp. 67-68), has many exceptions, thus limiting its applicability-usefulness.

Paris (2005) conceived of each of the components of the content of subject English as being located, somewhere, on a continuum from highly constrained to least constrained: content located on the highly constrained end of the continuum – comprised of the knowledge and skills encompassed by Freebody and Luke's (1990) Code Breaker role of a literate person[21] – is finite in scope, static in nature, and learnable via introduction to, and mastery of, conventions; by contrast, content located on the least constrained end of the continuum – comprised of knowledge and skills encompassed by Freebody and Luke's Text Participant, Text User and Text Analyst roles – is learnable-developable *ad infinitum* and, moreover, *freely* exercisable. Application of least constrained content is unbounded by strict procedures, rules or short-cuts that occasion 'correct' or 'fixed' answers: the process of interpreting a work of literature, for example, does *not* proceed according to formulaic application of defined knowledge and skills; rather, each of the multiple interpretations to which a work of literature is open emerges via the reader's unique transaction therewith, mediated by his/her "knowledge, beliefs, and purposes" (Beach et al., 2011, p, 42). Similarly, the task of composing, say, a recount, narrative or exposition involves fusing some 'more constrained' knowledge (Paris, 2005; e.g., text structure; sentence structure; punctuation; spelling) with 'less constrained' or, indeed, unconstrained knowledge (e.g., ideas; use of first or third person perspective; use of active/passive voice; use of figurative language, vocabulary) – that is, with knowledge whose application is unrestricted by fixed

[21] See, for example, the *Phonics and word knowledge* content descriptors, F-6, from the *Australian Curriculum: English* (ACARA, 2016a).

procedures (Brett, Hay & Shorter, 2015). Thus, because of its 'unconstrainedness', much of the content of subject English appears non-amenable to pedagogy that 'concentrates on procedures' as defined by Rowland et al. (2005, 2009). The emphasis – and essence – of this category seems unsuited to much of the epistemological-pedagogical context of subject English.

Note well: As per Chapter 2, Weston (2018) renamed this category *Concentration on understanding* to capture, instead, "a teacher's [advantageous] emphasis on…developing conceptual understanding of the underlying concept" (p. 77). Thus reframed, its applicability to *more* of the pedagogy of subject English becomes, suddenly, entirely conceivable. Indeed, many of the pedagogical episodes demonstrated by Grace, Zahra, Christopher and Catherine could, perhaps, have been coded *Concentration on understanding*. Accepting Weston's revision may, therefore, have implications re the content of the Foundation dimension for a KQ for English. Moreover, it would, perhaps, enable elucidation of aspects of the pedagogy of subject English that went unseen by this research.

Connections between procedures. This category may not belong in a KQ for English. If mathematical-like procedures do not apply to much of the content of subject English, the category might, perhaps, be void.

Recognition of conceptual appropriateness. Vis-à-vis the body of pedagogy demonstrated by Grace, Zahra, Christopher and Catherine, the (would-be) applicability of this category appears to have been subsumed, perhaps, by *Choice of text*: Grace, Zahra and Catherine each recognised/explained the conceptual – and, if applicable, linguistic – appropriateness of the content of their chosen text in terms of (a) task requirements and, importantly, (b) student need, or readiness. However, nil applicability of the category to the body of pedagogy demonstrated by Grace, Zahra, Christopher and Catherine does not occasion thought of its removal from a KQ for English: its applicability remains entirely

conceivable – in, for example, the content/requirements a teacher might specify for an assessment task.

***Decisions about sequencing*.** The (would-be) applicability of this category appears to have been subsumed by the categories *Pedagogical cohesion: Macro-level scaffolding* and *Pedagogical cohesion: Micro-level scaffolding*. The 'fuzzy', malleable structure of the content of subject English suggests teachers' presentation of knowledge and skills to students need *not* proceed, necessarily, according to a given, or fixed, hierarchy or logic. Moreover, in the epistemological-pedagogical context of subject English, decisions about sequencing of content are, perhaps, implicit in decisions about *scaffolding of learning*: "teachers, through their sequencing of teaching activities, and through the quality of their support and guidance, are able to challenge and extend what students are able to do" (Hammond & Gibbons, 2001, p. 3).

As with *Recognition of conceptual appropriateness*, however, the nil applicability of the category to the body of pedagogy demonstrated by Grace, Zahra, Christopher and Catherine does not occasion thought of its removal from a KQ for English. Indeed, its applicability becomes especially conceivable when Freebody's rationale for the *Australian Curriculum: English* (ACARA, 2016a) is considered. As per Chapter 2, Freebody claimed the *Australian Curriculum: English*

> [intensifies] the continuity of learning across the school years…and this continuity from [Foundation Year] to [Year 10], building upon English in the way that we've traditionally thought about Mathematics and Physics and that sort of thing, but reconstruing English perhaps a little more as a growing body of knowledge that we can develop about language and about literacy and about literature – that's one of the key guiding principles. (https://www.australiancurriculum.edu.au/f-10-curriculum/english/rationale/)

Thus, the *Australian Curriculum: English* (ACARA, 2016a) construes the content of the subject as a corpus of knowledge that, year by year, grows qualitatively more sophisticated. It stipulates a coherent sequence of learning F-10 across each of its strands and sub-strands. The precise content, or 'what', of learning within each strand and sub-strand year by year is specified in the 360+ content descriptions that populate the document.

As per Chapter 2, many theorists (e.g., Ball et al., 2008; Geddis et al., 1993; Grossman, 1990; Magnusson et al., 1999; Park & Oliver, 2008; Tamir, 1988; Turner-Bisset, 1999; see Table 3) consider curriculum knowledge (CK) a central component of PCK. Those who conceive of content knowledge (CK) as lying outside PCK (e.g., Shulman, 1987) recognise, at least, its interaction therewith. Thus, teachers' knowledge of the content of the *Australian Curriculum: English* (ACARA, 2016a) informs, perhaps, their decisions about sequencing. Presumably, then, Grace, Zahra, Christopher and Catherine knew 'where their students were at' vis-à-vis the continuum of learning defined by the *Australian Curriculum: English* and, thence, selected content therefrom that comprised the next phase of the growth of their students' knowledge of language/literature/literacy. However, *how* the content of their observed teaching articulated with the content of prior, unobserved teaching, and would articulate with future, unobserved teaching – and, indeed, the degree to which that concatenation of content might be mediated by their knowledge of the *Australian Curriculum: English* (and/or, indeed, by other domains of knowledge) – went unseen by this research. Thus, the applicability of the category *Decisions about sequencing* to the pedagogy of subject English warrants further investigation.

Deviation from lesson agenda. The category's nil applicability to the body of pedagogy demonstrated by Grace, Zahra, Christopher and Catherine appears due, simply, to straightforward non-display of trigger pedagogy: none of the four teachers needed to deviate from their planned programs of instruction. As with *Recognition of conceptual*

appropriateness and *Decisions about sequencing*, the nil applicability of the category to the body of demonstrated pedagogy does not occasion thought of its removal from a KQ for English: its applicability, too, remains entirely conceivable.

Summary – Research Question 1: Subsidiary Question 1

RQ1:SQ1 asked, *What categories of the KQ are applicable to the pedagogy of subject English?* Of the 20 categories of the KQ, 15 (75%) were applicable to the corpus of pedagogy demonstrated by Grace, Zahra, Christopher and Catherine; moreover, altogether, those 15 categories pertained to more than half the total number of instances of applicability (189/360, 52.5%). Thus, the broad and pronounced applicability of the KQ to the corpus of pedagogy demonstrated by Grace, Zahra, Christopher and Catherine was illustrated.

Reasons for some categories' non-applicability were posited. Regarding *Deviation from lesson agenda*, straightforward non-display of trigger pedagogy was, presumably, the reason. Regarding *Recognition of conceptual appropriateness* and *Decisions about sequencing*, the circumstances of non-applicability appeared more complex: vis-à-vis the corpus of pedagogy demonstrated by Grace, Zahra, Christopher and Catherine, the (would-be) applicability these categories was, it seemed, enmeshed with – perhaps, even, subsumed by – new categories (*Recognition of conceptual appropriateness* with/by *Choice of text*, and *Decisions about sequencing* with/by *Pedagogical cohesion*). Still, the (stand-alone) applicability of *Recognition of conceptual appropriateness* and *Decisions about sequencing* to English teaching remains conceivable, thus meriting further investigation. As Baumert et al. (2010) stated, "instruction [is] domain specific" (p. 165), and *Concentration on procedures* and *Connections between procedures* – as defined by Rowland et al. (2005, 2009) and www.knowledgequartet.org – appear to be those categories particularly germane to mathematics pedagogy: neither was applicable to the corpus of pedagogy demonstrated by Grace, Zahra, Christopher and Catherine; moreover, their relevance to English teaching

seems difficult to imagine. Nevertheless, non-applicability in the context of this project does not trigger deletion of that (extant) category from a KQ for English. Rather, additional research is needed to clarify hitherto non-applicable categories' relevance to English teaching.

Similarly, the legitimacy of the categories generated-introduced in the context of RQ1:SQ2 is, also, open to scrutiny. The researcher considers their viability sound (for reasons outline below); yet, like the Cambridge team, he, too, recognises that "empirical knowledge can always be revised by further observation" (Mastin, 2008, para. 1).

Review of Research Question 1: Subsidiary Question 2

RQ1:SQ2 asked, *Are there components, or facets, of the pedagogy of subject English that cannot be captured by categories of the KQ; and if so, what revisions can be made to the framework to accommodate those components/facets?* As per Chapter 3, the Pilot Study revealed that aspects of the pedagogy of subject English were uncapturable by any of the categories of the KQ. As such, eight new categories were generated-introduced, thereby 'making capturable' those aspects of pedagogy distinctive to English teaching. The Main Study corroborated their legitimacy: each was applicable to the corpus of pedagogy demonstrated by Grace, Zahra, Christopher and Catherine. The new categories were:

- in Foundation, *Choice of text*; included therein because of its link to the category *Awareness of purpose*: the teacher selects and uses a text on the basis of its potential to introduce/support/advance a pedagogical imperative.
- in Transformation, *Use of instructional procedures*; included therein because instructional procedures (i.e., Modelled Reading/Writing, Shared Reading/Writing, Guided Reading/Writing, etc.) are methods by which "[the] teacher transform[s] the

content knowledge he or she possess into forms that are pedagogically powerful" (Shulman, 1987, p. 15).

- in Connection:
  - *Pedagogical cohesion: Macro-level scaffolding* and *Pedagogical cohesion: Micro-level scaffolding*; included in Connection because they capture the means by which teaching/learning between lessons, and within a lesson, is cohered (connected) and progressed.
  - *Connections within text*; included in Connection because the category captures the connections the teacher draws, or prompts the students to draw, between aspects of a text (e.g., between print and illustrations, lexical items, etc.), thereby illuminating the internal logic of the text and supporting comprehension.
  - *External connectivity: Text-to-self connection*, *External connectivity: Text-to-world connection* and *External connectivity: Text-to-text connection*; included in Connection because they capture the range of connections that teachers make, or prompt students to make, between (a) the content, structure or linguistic features of a text that is the focus of, or being utilised in support of, current instruction, and (b) contexts, experiences or other texts beyond the focus of the current teaching/learning. Making these connections supports comprehension (e.g., by activating and describing prior experiences, drawing a helpful comparison, etc.)

The extent to which each of these newly generated-introduced categories applied to the corpus of pedagogy demonstrated by Grace, Zahra, Christopher and Catherine was demonstrated in Table 55 (Chapter 4). Altogether, they pertained to nearly half the total number of instances of applicability (171/360, 47.5%), with *Pedagogical cohesion: Micro-level scaffolding* alone capturing/accounting for a quarter of Total Frequency (25.3%).

The legitimacy of these new categories is, the researcher considers, sound: as per Chapter 3, their construction-corroboration was based (a) in multiple data from New Zealand and Tasmania, and, moreover, (b) on rigorous intellectual activity on the part of the researcher and his supervisors. Also, the content of Grossman et al.'s (2009) *Protocol for Language Arts Observation* (PLATO) supports their legitimacy.

PLATO was, hitherto, the sole "classroom observation protocol designed to capture features of English/Language Arts instruction" (CSET, 2013, para. 1). As per Table 6 (Chapter 2), PLATO includes four principal constructs, each of which encompasses two, three or four of "thirteen elements of high-quality teaching in English" (Grossman, Cohen & Brown, 2014, p. 305). Three of the constructs, and 11 of the elements, concern discipline-based features of pedagogy, *and congruence between the emphases of six of these elements and the foci of the distinctive categories of the KQ-E, is discernible.* Below, then, the left-hand cell of each row of Table 56 recites the details of one or two of these six elements, while the right-hand cell catalogues the name and focus of the distinctive category(ies) of the KQ-E that corresponds therewith.

Table 56

Congruence between elements of PLATO and distinctive categories of the KQ-E

PLATO element		Distinctive category(ies) of the KQ-E
		Choice of text Teacher's selection of text (literary, media, everyday, workplace) to motivate and inform teaching-learning. *and* **Connections within text** Supporting students' reading development and comprehension of text by illuminating the internal logic of the text *and* **External connectivity: Text-to-text connection** A teacher's efforts to support students' comprehension of a text by making, and/or prompting the students to make, a connection/comparison between the text and another text.
Text-based instruction How grounded [English] instruction is in a variety of texts, as well as the degree to which students are asked to generate their own texts.	has/have congruence with, manifest(s) as	
Models and use of models The degree to which a teacher visibly enacts strategies, skills, and processes targeted in the lesson to guide students' work before or while they complete the task; the degree to which they are analysed or not; and whether they are used to illustrate for students what constitutes good work on a given task. *and* **Guided practice** The quality of feedback provided in response to student application of [English] skills, concepts or strategies.		**Use of instructional procedures** A teacher's use of instructional procedures to support learning. *Instructional procedures* refers to "meaningful contexts for focusing on selected parts of the reading [or writing] process" that "[involve] varying degrees of responsibility for both the teacher and student" as per "[Pearson & Gallagher's (1983)] Gradual Release of Responsibility Model" (Annandale et al., 2004, p. 5): • for the teaching of reading (in order from high degree of teacher control to high degree of student control): Reading to Students; Modelled Reading; Language Experience; Shared Reading; Guided Reading; Book Discussion Groups; Independent Reading • for the teaching writing (in order from high degree of teacher control to high degree of student control): Modelled Writing; Language Experience; Shared Writing; Interactive Writing; Guided Writing; Independent Writing; Author's Chair
Classroom discourse The opportunity for, and quality of, student conversations with the teacher and among peers. *and* **Connections to prior academic knowledge** The extent to which new material is connected to students' previous academic knowledge.		**Pedagogical cohesion: Macro-level scaffolding** Concerns the process of connecting-elaborating teaching-learning across lessons. *and* **Pedagogical cohesion: Micro-level scaffolding** Concerns the process of connecting-elaborating teaching-learning within a lesson

Connections to personal and cultural experience The extent to which new material is connected to students' personal and cultural experiences.	has/have congruence with, manifest(s) as	**External connectivity: Text-to-self connection** Concerns a teacher's efforts to support students' comprehension of a text by making, and/or prompting the students to make, a connection/comparison between the text and personal experience. *and* **External connectivity: Text-to-world connection** Concerns a teacher's efforts to support students' comprehension of a text by making, and/or prompting the students to make, a connection/comparison between the text and knowledge of the world.

As per Chapter 2, the scope of each of the elements of PLATO is broad. The scope of the categories of the KQ-E, however, is more compressed: each concerns quite discrete pedagogical activity. As the intermediary column of Table 56 indicates, therefore, the distinctive categories of the KQ-E represent, perhaps, possible *manifestations* of the discipline-based pedagogy encompassed by the PLATO elements. Regardless, congruence between the emphases of some of PLATO and the foci of the distinctive categories of the KQ-E, is apparent. Indeed, regarding their content, the two frameworks are, it seems, mutually validating – a point italicised by their divergent geographical/educational-jurisdictional contexts of production: PLATO was developed vis-à-vis the pedagogy of subject English demonstrated by teachers in schools in New York City; the KQ-E was developed vis-à-vis the pedagogy of subject English demonstrated by teachers in schools in Auckland and Launceston. Yet, as Table 56 illustrates, both frameworks reference synonymous pedagogical activity. This, according to Knobel and Lankshear (1999), constitutes a form of triangulation: "[W]e use the term to describe [when] a piece of information is 'backed up' by other sources of information" (p. 31). As such, the legitimacy of the distinctive categories of the KQ-E is, it seems, supported. They *do*, apparently, reflect a corpus of discipline-based features of the pedagogy of subject English, including, notably, practices that (a) recognise subjective knowing and (b) involve-promote dialogic teaching-learning. The content of subject English concerns, often, nebulous, even contested, matter

which, by that very fact, resists neat, unambiguous resolution; thus, didactics that accord therewith should, indeed, figure amid teachers' PCK-for-subject-English. Indeed, Simmons and Hay (2010), for example, observed that peer-peer interaction and open-ended whole-class discussion was more prevalent in, and central to, teaching-learning in (subject) English than Mathematics. Similarly, Cohen (2015) observed that "orchestrating classroom discourse" (p. 1) figured minimally in the 300+ mathematics lessons that she observed, noting "very few instances of high-scoring [orchestration of classroom discourse]" (p. 1).

Vis-à-vis the synonymity of PLATO and the KQ-E, a question does, of course, arise: *What does the KQ-E offer that PLATO does not?* Bell et al. (2019) asked:

> [W]hen individuals set out to understand and/or improve teaching, they face many choices. For example, should they use [an observation] system that can be used across school subjects, a so-called 'generic' system, or one that is subject-specific? Should they select a system that produces more narrow and detailed information or one that produces more global, summary information? (p. 3)

As per Chapter 2, the purview of each of the constructs and elements of PLATO is broad. Moreover, research demonstrated that much of the content of PLATO is, in fact, *not* specific to English teaching: Cohen (2015), for example, comfortably applied the bulk of PLATO to "[the] math teaching" demonstrated by "fourth grade teachers" (p. 1), while Kloser (2014) surmised, then circuitously illustrated, the applicability of PLATO to science teaching. Additionally, some of PLATO – namely, the construct *Classroom environment* and elements *Behaviour management* and *Time management* – concerns general pedagogical knowledge (GPK). Thus, PLATO straddles the boundary between GPK and PCK; moreover, its largely generic conceptualisation of PCK is, by that very fact, readily applicable to subjects beyond English, including Mathematics, Science – and, presumably, all other

subjects of the school curriculum. The KQ-E, however, recognises very specific expressions of PCK-for-subject-English.

Revisiting the question, then – *What does the KQ-E offer that PLATO does not?* – the answer, in Bell et al.'s (2019) words, is "more narrow and detailed information" (p. 3) regarding the PCK-for-subject-English demonstrated by teachers. Or, in Rowland's (2008) words, clearer "organisation of the complexity" (p. 284) of same. This particularity of analysis enabled by the KQ-E might befit certain purposes which more generic analysis via PLATO does not, and vice versa. The purpose of the KQ-E is to cultivate English teachers' instructional capacity by enabling content-specific feedback and reflection. For this, the framework's specificity-granularity seems especially apt.

Summary – Research Question 1: Subsidiary Question 2

RQ1:SQ2 asked, *Are there components, or facets, of the pedagogy of subject English that cannot be captured by categories of the KQ; and if so, what revisions can be made to the framework to accommodate those components/facets?* Aspects of the pedagogy of subject English were, indeed, uncapturable by any of the categories of the KQ. So, eight new categories were generated-introduced: *Choice of text*; *Use of instructional procedures*; *Pedagogical cohesion: Macro-level scaffolding*; *Pedagogical cohesion: Micro-level scaffolding*; *Connections within text*; *External connectivity: Text-to-self connection*; *External connectivity: Text-to-world connection*; and *External connectivity: Text-to-text connection* embrace those aspects of the pedagogy of subject English that Rowland et al.'s (2005, 2009) KQ was unable to capture-illuminate. Comparing of the focus of the new categories against the purview of six of the elements of PLATO (Grossman et al., 2009) indicated that: (a) the new categories are legitimate; and (b) they reflect, apparently, content-based aspects of the pedagogy of subject English. Altogether, the new categories pertained to nearly half the total

number of instances of applicability re the corpus of pedagogy demonstrated by Grace, Zahra, Christopher and Catherine (171/360, 47.5%).

Accounting for the New Categories that Distinguish the *Knowledge Quartet – English*

The project is contending-demonstrating that Rowland et al.'s (2005, 2009) KQ model of PCK is, largely, applicable to the pedagogy of subject English; moreover, that elaboration of the KQ – that is, the generation-inclusion of new categories – has, essentially, been occasioned by the nature of the content of subject English. As Baumert et al. (2010) stated, "the structure and syntax of the subject affect instructional processes" (p. 165). To overlook other factors would, however, be remiss. Hereunder, alternative explanations are presented.

PCK is multifactorial. Teachers' formation of PCK within any subject domain is multifactorial. Fan (2014), for example, observed that development of PCK is motivated by seven interconnected variables: (1) the teacher's own experience regarding how the subject was taught to him/her at school; (2) type and quality of pre-service education/training; (3) volume and quality of in-service professional development; (4) organised professional activities; (5) formal and informal exchanges with colleagues; (6) reading of academic/professional literature; and (7) teaching experience. Other factors identified as impacting PCK include:

- ability to multi-tailor content to suit the diversity of student capabilities and needs present within a typical classroom (Moni & Hay, 2019);
- opportunity and capacity to reflect on the efficacy of teaching practice (Edwards-Groves, 1998, 2003; Evens, Elen & Depaepe, 2015);
- affective matters (e.g., motivation, sense of self-efficacy) re development of pedagogical expertise (Thompson, Windschitl, & Braaten, 2013); and

- needing to teach beyond one's domain of content expertise because of, for example, staff availability and/or timetabling issues in the school (Banilower, Trygstad & Smith, 2015).

Thus, the PCK demonstrated by Grace, Zahra, Christopher and Catherine – and, consequently, the generation-inclusion of the new categories – might, perhaps, have been occasioned, also, by factors beyond the structure and syntax of the content of subject English. Social-constructivist approaches to teaching-learning, for example, including opportunities for students to connect the content of lessons to personal experiences, are, conceivably, agnostic re content – and might, therefore, have alternative bases. Indeed, the pedagogy demonstrated by Catherine, for example, featured careful scaffolding and multiple opportunities for student-student dialogue, *despite* the self-professed limits of her knowledge of poetry, which "was an area that [she] wasn't strongest in…I still feel I have like a long way to go with fully understanding [that] content myself" (Catherine, post-lesson interview, 14/09/2016, 00:01:24 - 00:01:33). Thus, her social-constructivist pedagogy had, it seems, foundations beyond the content of instruction. Similarly, Grace acknowledged that professional development (PD), collegial dialogue, and teaching experience had shaped her PCK:

- "I went early on to a…PL, so I got a few things from that that I brought back pretty much straight away" (Grace, post-lesson interview, 21/07/2016, 00:02:55 - 00:03:02);
- "And it's basically just been older teachers that have sort of said you could do this, you could do that" (Grace, post-lesson interview, 21/07/2016, 00:04:22 - 00:05:20);
- "So having taught Grade 2/3 for a few years now, I know that it's something you have to do with them" (Grace, post-lesson interview, 21/07/2016, 00:04:49 - 00:04:58).

Zahra, too, recognised the impact of years of teaching experience on the development-enactment of her PCK; she acknowledged, also, the importance of knowledge of students: "I think that's just from prior knowledge of the children and teaching career" (Zahra, post-lesson interview, 02/11/2016, 00:06:27 - 00:07:06). Grace and Catherine, too, were conscious of the capabilities of their students, and shaped their pedagogy accordingly[22]. Van Driel et al. (1998) stated that PCK develops via "an integrative process rooted in classroom practice" (p. 673), meaning "beginning teachers usually have little or no PCK at their disposal" (p. 677). As per Chapter 4, Christopher's limited PCK (as revealed by the sparseness of applicability of the KQ-E to his pedagogy) was, it seemed, largely attributable to his relatively minimal teaching experience. He was, apparently, "still in the process of developing a repertoire of instructional strategies" (Grossman, 1990, p. 9).

Thus, *multiple* factors, it seems, shaped the PCK illuminated by application of the KQ-E to the pedagogy demonstrated by Grace, Zahra, Christopher and Catherine. Teaching experience, particularly, seems critical; and might, in fact, account, somewhat, for distinctions between the KQ and KQ-E.

Teaching experience informs PCK. Each of the four teachers whose pedagogy is presented in this thesis, and on which the KQ-E is substantiated, was qualified (i.e., held a Bachelor of Education or Master of Teaching degree) and, for all intents and purposes, wholly responsible for all of the decisions and actions regarding the content-delivery of a program of English teaching-learning to his/her class. Three of them – Grace, Zahra and Catherine – each had about 10 years of teaching experience. By contrast, Rowland et al.'s (2005, 2009) KQ was developed vis-à-vis pedagogy demonstrated by *pre-service* (i.e., novice) teachers with, by that very fact, limited responsibility, experience and, presumably,

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[22] Perhaps, then, a category *Knowledge of students* should figure in the KQ-E. Certainly, knowledge of learner cognition relative to content is, indeed, a recognised domain of PCK (see Table 3).

PCK (Grossman, 1990; van Driel et al., 1998). Here, Borko and Livingston's (1989) seminal research on novice and expert teachers' PCK for mathematics instruction becomes relevant: "Differences in the thinking and actions of…experts and novices were analysed by perceiving teaching both as a complex cognitive skill and as improvisational performance" (p. 473). Their findings, too, were based on fine-grained, in-depth analysis of the pedagogy demonstrated by a small number of teachers (n = 6; three novice, three expert), and suggested that differences between the pedagogic facility of novice and expert teachers pertained, mainly, to capacity to:

- readily invoke "powerful explanations, demonstrations, and examples for representing subject matter to students" (p. 490);
- "see relationships across the curriculum" (p. 490);
- "predict misconceptions the students may have" (p. 491);
- "present adequate responses to requests for unplanned explanations [and] maintain the direction of the lesson when responding to student questions or comments" (p. 488); and
- undertake incisive post-lesson reflection.

As Borko and Livingston (1989) summarised:

> Novices showed more time-consuming, less efficient planning, encountered problems when attempts to be responsive to students led them away from scripted lesson plans, and reported more varied, less selective post-lesson reflections than experts. These differences were accounted for by the assumptions that novices' cognitive schemata are less elaborate, interconnected, and accessible than experts' and that their pedagogical reasoning skills are less well developed. (p. 473)

Krepf, Plöger, Scholl and Seifert (2018) discovered likewise in their comparative study of the PCK of novice and experienced Science teachers. Couching the preceding quotes from Borko and Livingston (1989) in the nomenclature of the KQ (Rowland et al., 2005, 2009), they concluded, perhaps, that differences between the pedagogic facility of novice and experienced teachers pertained, principally, to issues of: teacher demonstration; choice of representations; choice of examples; making connections between concepts; anticipating complexity; responding to students' ideas; and deviating from lesson agenda. Applying the nomenclature of the KQ-E, they concluded, perhaps, that differences between the pedagogic facility of novice and experienced teachers pertained, additionally, to issues of: use of instructional procedures; pedagogical cohesion (macro- and micro-level scaffolding); and, perhaps, connections within text and external connectivity (text-to-self, text-to-world and text-to-text).

The findings presented in this thesis vis-à-vis the pedagogy demonstrated by Grace, Zahra and Catherine suggest these more experienced teachers 'had', *by virtue of that experience*, cognitive schemata for teaching English that were, in Borko and Livingston's (1989) terms, "elaborate, interconnected, and accessible" (p. 490) – and which, presumably, occasioned that pedagogy which application of the KQ-E revealed as thickly populated with manifold categories of activity. Thus, the elaborated KQ (i.e., the KQ-E) presented herein might, perhaps, be explainable – in part, at least – vis-à-vis differences between the volume of teaching experience of Grace/Zahra/Catherine and Rowland et al.'s (2005) cohort: new categories were needed to capture the richer nature of the more experienced teachers' pedagogy. That Christopher's pedagogy-of-subject-English was qualitatively different to Grace's, Zahra's and Catherine's might buoy this claim. A teacher of relatively little experience, the pedagogy he demonstrated featured comparatively few categories of activity, sparsely enacted. Grossman (1990) stated that "beginning teachers are still in the process of

developing a repertoire of instructional strategies" (p. 9); conversely, "[e]xperienced teachers may possess rich repertoires of [practice]" (p. 9). Thus, categories that distinguish the KQ-E may reflect-illuminate pedagogical activity based in teaching experience rather than content.

System characteristics might shape pedagogy. Alternatively, system particularities might, perhaps, have comprised the bases of the new categories: by virtue of the characteristics of the educational systems wherein they work, New Zealand and Tasmanian teachers might, perhaps, instruct and interact with their students differently to UK teachers. Indeed, such 'particulars of system' have, previously, been the basis of a modification of the KQ. As per Chapter 2, Petrou's (2010) addition of *Use of instructional materials* to Rowland et al.'s (2005, 2009) original version of the framework was occasioned by the textbook-centric nature of the Cypriot education system; specifically, by teachers' adaptation and augmentation of the content of that centrally developed/mandated textbook to suit their instructional needs. Thus, in the context of this project, the new categories might reflect the pedagogical emphases of New Zealand and Tasmanian government systems of education, instead of categories of pedagogical activity distinctive to English instruction.

Although teaching experience and particulars of system could, perhaps, have occasioned the corpus of newly generated-introduced categories that distinguish the KQ-E, the sheer volume of theoretical sampling to which Rowland et al.'s (2005, 2009) KQ has been subjected, suggests otherwise. Rowland (2013) commented that "[t]he Knowledge Quartet…has been exposed to extensive 'theoretical sampling'…in the analysis of other mathematics lessons in England and beyond" (p. 21), including with preservice, early career and experienced teachers. Indeed, the KQ, Rowland et al. (2009) stated, is relevant to Mathematics teachers "at any stage of their career" (p. xv). Yet despite that prodigious volume of theoretical sampling (see www.knowledgequartet.org), Petrou's (2010) *Use of instructional materials* is, currently, the only category to have emerged vis-à-vis the

particulars of a given education system; moreover, none of that quantum of sampling has occasioned categories of pedagogical activity that reflect social-constructivist/Vygotskian (1962, 1978) approaches to teaching-learning, or which involve students linking the content of instruction to personal experiences. Thus, a pointed line of reasoning emerges vis-à-vis the bases of the new categories that distinguish the KQ-E: If, as widespread theoretical sampling has indicated, teacher experience and system particulars have impressed *minimally* on the content of Rowland et al.'s KQ, why, then, should those matters now prove influential vis-à-vis the generation-inclusion of the new categories that emerged in the context of this research? Put succinctly, the fact that "extensive 'theoretical sampling' [of the KQ]" (Rowland, 2013, p. 21) has *not* occasioned new categories of pedagogical activity that reflect these two emphases suggests that such pedagogical activity may not, necessarily, be characteristic of (a) the practice of, only, more experienced teachers, or (b) a given system of education. Thus, the case for the new categories of pedagogical activity being grounded, more, in the *content* of English instruction is, it seems, buoyed.

Methodological factors. As per Chapter 3 and Chapter 4, analysis of the corpus of pedagogy demonstrated by Grace, Zahra, Christopher and Catherine was fine-grained, occasioned by the researcher's motivation to rigorously test the applicability of the KQ to the pedagogy of subject English. Vis-à-vis the natural flow of the teacher's talk, each lesson transcript was divided – and, sometimes, sub-divided – into very particular moments of teaching that were, then, analysed-classified. Segmenting the data thus might, perhaps, have been a factor that effected the generation of the new categories that distinguish the KQ-E: exact segmentation augments the heterogeneity perceptible within the data; this, then, motivates the development of new categories and, consequently, a more elaborate system of classification.

As per Chapter 3, analysis commenced with application of the categories of the (original) KQ. However, as a consequence of the fine segmentation of the data – and, thence, the greater heterogeneity identifiable therein – some of the teachers' actions were, it turned out, uncapturable by Rowland et al.'s (2005, 2009) system of classification. Rather than ignore these misfitting data, the project has, instead, taken and used them as the basis for developing an expanded KQ (the KQ-E), wherein several new categories that relate to the pedagogy of subject English demonstrated by New Zealand and Tasmanian teachers have been generated and introduced into three of the four dimensions of Rowland et al.'s model. To what extent the misfitting data that prompted the generation-inclusion of the new categories was occasioned by each of the matters of (1) teaching experience, (2) education system, (3) method of analysis or, indeed, (4) the nature of the content of subject English, is difficult to verify; however, parallels between the content of PLATO (Grossman et al., 2009) and the KQ-E, the findings of Cohen (2015) and, moreover, the outcomes of the "extensive 'theoretical sampling' [of the KQ]" (Rowland, 2013, p. 21), suggest that nature of content is, indeed, a central factor. Regardless, the core message of the research is: The *Knowledge Quartet – English* enables elucidation of teachers' actualised PCK for subject English. Thus, the researcher hopes that, via KQ-E-mediated analysis of their pedagogy-of-subject-English, pre- and in-service teachers will be equipped-empowered to engage in focused, evidence-based pedagogical reasoning that enhances their PCK for subject English and, thence, their students' learning and achievement in this important subject.

Research Question 1: Summary

Research Question 1 – which asked, *To what extent is the content of the KQ applicable to the pedagogy of subject English?* – was rendered answerable via two subsidiary questions:

- *What categories of the KQ are applicable to the pedagogy of subject English?*
- *Are there components, or facets, of the pedagogy of subject English that cannot be captured by categories of the KQ; and if so, what revisions can be made to the framework to accommodate those components/facets?*

In preceding sections of this chapter, responses to RQ1:SQ1 and RQ1:SQ2 were presented and related, as appropriate, to scholarly literature reviewed in Chapter 2. Research findings indicated that 15, or 75%, of the categories of the original KQ were applicable to the body of pedagogy-of-subject-English demonstrated by Grace, Zahra, Christopher and Catherine, while eight new categories were generated-introduced to capture pedagogical activity that appeared characteristic of English teaching. As per Baumert et al. (2010), dissimilarity between the nature of the content of English and Mathematics was perhaps, a central factor in (a) the inapplicability of some of the categories of the extant framework, and (b) the need to generate-introduce new categories. Alternative possibilities were, nevertheless, presented. The dimensions and categories of the KQ-E were differentially applicable to the body of pedagogy demonstrated by the Grace, Zahra, Christopher and Catherine, with Connection emerging as the dimension – and, within Connection, *Pedagogical cohesion: Micro-level scaffolding* as the category – with the highest frequency of applicability.

As previously stated, the KQ-E is, it seems, a credible and viable instrument by which to illuminate actualised PCK for subject English. As such, a logical question to ask is, *What, then, does actualised PCK for subject English, as per application of the KQ-E, 'look like'?* Such a question is synonymous with Research Question 2, discussed hereunder.

Review of Research Question 2

Preamble

As per Chapter 2, Rowland (2013) asked, "[W]hat might the conceptualisations of the dimensions of the KQ…look like in another discipline?" (pp. 40-41), and this project represents an effort to answer that question vis-à-vis subject English. Research Question 2 (RQ2) asked, *What do the categories of the KQ, and any new categories, 'look like' in the context of the pedagogy of subject English? What do they capture?* Hereunder, responses to RQ2 are presented. They consist, in the main, of synopses of the findings documented in the *Realisation* sections of Chapter 4. Given the minutiae of Chapter 4, concision is, hereunder, sufficient and, moreover, appropriate. For each of the four dimensions of the KQ-E – Foundation, Transformation, Connection and Contingency – a conspectus is provided, followed by very concise synopses, presented tabularly, of the findings pertaining to each of the categories therein. Each conspectus reiterates the focus of the dimension, précises salient findings pertaining thereto, and prefigures the content of the category synopses that follow. The synopses include (a) the quantitative data pertaining to frequency of applicability; (b) the names of the teachers to whose pedagogy the categories applied; and (c) concise descriptions of practice, which reify the generic category descriptions presented at the end of Chapter 3. Each of the synopses is presented separately; however, the pedagogical activity described therein may, in reality, have intersected with the pedagogical activity captured by – and thus described within – another category. Salient connections between categories of pedagogical activity (e.g., between *Awareness of purpose* and *Choice of text*) are acknowledged.

Details of the pedagogical activity captured within Foundation are now presented, beginning with the aforementioned conspectus and, thereafter, category synopses.

Foundation

Conspectus. As per Chapter 2, Foundation concerns teachers' theoretical SMK and PCK; namely, their "knowledge and understanding of [subject matter] *per se*" (Rowland & Turner, 2007, p. 112), beliefs regarding the ontological status thereof, and rationale for its teaching; also, their views regarding the conditions under which, and processes whereby, content is most appropriately-effectively taught and learnt. The spectrum of cognitive activity-resources embraced by this dimension has, as Rowland et al. (2009) stated, "the potential to inform pedagogical choices and strategies in a fundamental [i.e., rational, reasoned] way" (Rowland et al., 2009, p. 30): Foundation, as the name denotes, underpins each of the other three dimensions of the KQ/-E.

Redefined vis-à-vis subject English, six of the seven of Rowland et al.'s (2005, 2009) component categories of Foundation were applicable to the corpus of pedagogy demonstrated by Grace, Zahra, Christopher and Catherine, thereby (a) connoting the generalisability of this dimension to English teaching and, moreover, (b) supporting Rowland's (2013) claim that "the KQ [is] comprehensive as a tool for thinking about the ways that content knowledge comes into play in the classroom" (p. 21). Generally, then, the types of foundational scenarios that surface in mathematics instruction appear to surface, also, in English instruction. *Concentration on procedures* was the only category from Foundation that did not apply to Grace/Zahra/Christopher/Catherine's pedagogy. Moreover, it might rarely apply to the pedagogy of subject English (as per previous discussion). Reframed as *Concentration on understanding* (Weston, 2018), however, its applicability becomes entirely conceivable: certainly, reanalysis of Grace/Zahra/Christopher/Catherine's pedagogy vis-à-vis this renewed and, indeed, more befitting lens might yield alternative, and interesting, results.

While many foundational scenarios that transpire during English and mathematics teaching are, it seems, equivalent, other circumstances emerge that reflect-reify particularities

of content and, as such, are distinctive to either subject. As per Chapter 2, the study of texts is "the heart of the English curriculum" (Adams & Campagna-Wildash, 1995, p. 1), and Grossman et al.'s (2009) PLATO acknowledges-addresses this characteristic aspect of English teaching via the element *Text-based instruction*. Text-centred instruction indeed figured amid the pedagogy demonstrated by Emily and Laura (the New Zealand teachers whose practice was the focus of the Pilot Study), and Grace, Zahra, Christopher and Catherine. Consequently, a category that captured this text-centric component of their PCK-for-subject-English was generated-introduced to Foundation. *Choice of text* illuminated the teachers' selection of text (films, picture books, a poem) according to various criteria – including, principally, the potential of the text (or features thereof, e.g., content/ideas, structure, language) to constitute, or *be*, the vehicle by which pedagogical imperatives were accomplished. Thus, the pedagogical activity captured by *Choice of text* and *Awareness of purpose* was interrelated. The texts were selected, also, according to knowledge of students' conceptual, linguistic and social needs, or potential.

Choice of text had a comparatively low Category Frequency ($n = 5$). Nevertheless, the pedagogical activity captured by this category was, seemingly, consequential: the affordances of the selected texts comprised, partly, the bases, or foundations, on which other categories of pedagogical activity were developed and enacted (or could have been developed and enacted). Thus, low frequency ≠ insignificance.

Research evidence (e.g., Christie, 2018; Edwards-Groves, 2003; Edwards-Groves, Anstey & Bull, 2014; Edwards-Groves & Davidson, 2017; Hammond, 2001; Hardman, 2011) suggests that effective PCK-for-subject-English is informed by, and reflects, social-constructivist/Vygotskian (1962, 1978) notions of teaching-learning, and constructs and elements of PLATO (Grossman et al., 2009) are commensurate therewith. Similarly, the project's findings re *Theoretical underpinning of pedagogy* indicated that Grace, Zahra and

Catherine's PCK-of-subject-English was underpinned by social-constructivist/Vygotskian premises: transactional modalities whereby students shared and negotiated knowledge, and co-constructed meanings, were customarily utilised, thus "reflect[ing] the understanding that learners [co-]construct knowledge" (pp. 9-10); additionally, macro- and micro-level scaffolding propelled successive elaboration of students' understandings, thus conveying them toward the upper limits of their zones of proximal development (Vygotsky, 1978) and states of competence reflective of lesson goals. That is to say, application of the KQ-E indicated that Grace/Zahra/Catherine's PCK-for-subject-English was predicated on theory that research evidence, and PLATO, suggests is allied with effective English teaching.

(Note well: The social-constructivist/Vygotskian (1962, 1978) assumptions and constructs that, it seems, informed Grace, Zahra and Catherine's pedagogy, appeared to impress on, or manifest in, a *range* of other categories of activity, including *Use of instructional procedures, Pedagogical Cohesion: Macro-level scaffolding, Pedagogical cohesion: Micro-level scaffolding* and *Use of instructional procedures*.)

Having presented a conspectus of salient findings pertaining to Foundation, category synopses are, now, related in Table 57. As per the section preamble, Table 57 includes (a) the quantitative data pertaining to frequency of applicability; (b) the names of the teachers to whose pedagogy each category applied; and (c) concise descriptions of practice.

Table 57

Category synopses – Foundation

Category	Frequency of applicability			Teachers to whose pedagogy the category applied	Concise descriptions of practice
	Total Category Frequency	Total Frequency as a % of Total Dimension Frequency (actual instances, *n* = 115)	Total Category Frequency as a % of Total Frequency (actual instances, *n* = 360)		
Theoretical underpinning of pedagogy	15	13.0	4.2	Grace, Zahra, Catherine	Applied to pedagogical activity indicative of a social-constructivist/Vygotskian (1962, 1978) orientation to teaching-learning: scaffolding, turn-and-talk, and whole-class sharing. Students' interactive participation in scaffolded tasks propelled successive elaboration of their knowledge and understanding; moved them towards the upper limits of their zones of proximal development and states of competence commensurate with lesson goals.
Awareness of purpose	48	41.7	13.3	Grace, Zahra, Christopher, Catherine	Applied to moments wherein the goal of the lesson, a task or the unit of work was (re-)explicated; typically via talk (e.g., *Today, we're going to…because…*), though Zahra and Christopher also recorded goals on the whiteboard, variously adopting Clarke's (2001) acronyms (WALT, WILF, TIB) to state, exemplify and rationalise the intended learning/task-completion.
Identifying pupil errors	11	9.6	3.1	Grace, Catherine	Applied to moments wherein student errors or misconceptions vis-à-vis constrained content (Paris, 2005) were identified, and correction prompted. Grace recognised and managed errors concerning grapheme-phoneme correspondence, phonological awareness, and syntax. Catherine recognised and managed a student's misconception of the physical setting in Wright's *The Killer*, citing evidence from the poem.

Overt display of subject knowledge	12	10.4	3.3	Grace, Catherine	Applied to moments wherein SMK was accessed and leveraged to inform and propel instruction. Grace demonstrated (a) Linguistic Subject Knowledge (SMK) (Myhill et al., 2012, p. 142) – specifically, knowledge of the 'construct' of a simple sentence, including relevant grammatical categories; and (b) knowledge of generic form; specifically, the structural and linguistic attributes of written procedural text. Catherine demonstrated knowledge of the process of comprehending text; specifically, that comprehension – especially of poetry, which might be "a little bit abstract and it's not…telling you in full sentence form what's going on" (00:08:12 - 00:09:14) – develops, often, by re-reading the text.
Use of subject-specific terminology	23	20.0	6.4	Grace, Zahra, Catherine	Applied to moments wherein technical lexes were utilised. Teacher and students had a shared understanding of the meanings thereof; thus, Grace/Zahra/Catherine utilised said lexes naturally, confident students would recognise and understand them.Grace used technical lexes re grammar; Zahra – comprehension, grammar, morphology, phonetics, punctuation, text structure; Catherine – the process of comprehending and analysing *The Killer*, including for stylistic devices therein.
Adherence to textbook	1	0.9	0.3	Zahra	During a 20-minute period of small-group teaching, Zahra regularly consulted a lesson plan from the *Words Their Way* spelling resource, even quoting material therefrom. Adhering to the lesson plan appeared to curtail her sensitivity toward, and capacity to leverage, opportunities for point-of-need scaffolding presented by student input.
Concentration on procedures	0	0.0	0.0	None	NA
Choice of text	5	4.3	1.4	Grace, Zahra, Christopher, Catherine	Applied to Grace/Zahra/Christopher/Catherine's selection of a text(s) according to various criteria – principally, the potential of the text(s) (or features thereof) to constitute, or *be*, the vehicle by which pedagogical imperatives were accomplished. Also, according to knowledge of students' conceptual, linguistic and social needs. Grace selected *Submarine Sandwich*, a short stop-motion film by PES; Zahra – *Feathers and Fools*, a picture book by Mem Fox (author) and Nicholas Wilton (illustrator); Christopher – two 50-minute documentaries, *Miracle in the Jungle* (Douglas, 2010) and *Miracle in the Storm* (Fulton & Peedom, 2010); Catherine – *The Killer*, a seven-stanza poem by Margaret Wright.

Transformation

Conspectus. As per Chapter 2, Transformation – which Abdulhamid and Venkat (2013) described as "the heart of the [K]nowledge [Q]uartet" (p. 49) – addresses cases of actual PCK: namely, those instances wherein the teacher "transform[s]…content knowledge…into forms that are pedagogically powerful" (Shulman, 1987, p. 15). Knowledge of representations and strategies, a recognised domain of PCK (see Table 3, Chapter 2), is captured by this dimension.

Redefined vis-à-vis subject English, all four of Rowland et al.'s (2005, 2009) component categories of Transformation were applicable to the corpus of pedagogy demonstrated by Grace, Zahra, Christopher and Catherine. Hence, (a) the generalisability of this portion of the KQ to English teaching is, too, connoted, and (b) Rowland's (2013) claim regarding the robustness of the framework is bolstered. Overall, the types of transformational scenarios that surface in mathematics instruction appear to surface, also, in English instruction.

Yet while many transformational scenarios that transpire during English and mathematics teaching are, it seems, equivalent, a type of scenario did emerge that, apparently distinctive to PCK for subject English, prompted the generation-introduction of a new category to Transformation: *Use of instructional procedures*. Vis-à-vis English teaching, the meaning of 'instructional procedures' is particular, referring to "meaningful contexts for focusing on selected parts of the reading [or writing] process" that "[involve] varying degrees of responsibility for both the teacher and student" as per "[Pearson and Gallagher's (1983)] Gradual Release of Responsibility Model" (Annandale et al. 2004, p. 5). *Use of instructional procedures* captured Emily/Laura's and Grace/Zahra/Catherine's application-coordination of: Reading to Students, Shared Reading and Guided Reading; and Shared Writing, Guided Writing and Independent Writing. As per Chapter 2, use of instructional procedures is

characteristic of the *Skills* model of English and, more particularly, the authoritative pedagogy of the genre-based approach to English/literacy instruction, wherein the reading and writing of various text-types is made visible and attainable to students via explicit induction. *Use of instructional procedures* constitutes the KQ-E's equivalent to some of the content of PLATO (Grossman et al., 2009) – namely, the construct *Instructional scaffolding* and the elements *Strategy use instruction*, *Models and use of models* and *Guided practice*. That both frameworks include a segment (or segments) that concerns teachers' deployment of instructional procedures connotes the distinctiveness of this type of PCK to English teaching. Indeed, use of instructional procedures is, Graves and Fitzgerald (2003) argued, central to English teaching. Moreover, that English teachers characteristically apply-coordinate instructional procedures intimates familiarity with, and motivation to apply, a conceptual framework wherein social-constructivist/Vygotskian (1962, 1978) assumptions, and constructs, are inherent: Pearson and Gallagher's (1983) *Gradual Release of Responsibility* (GRR) model. The GRR model frames-informs the practice of scaffolding, "a defining characteristic of social constructivist approaches to [instruction]" (Knobel & Lankshear, 1999, p. 9). Thus, the pedagogical scenarios captured by *Use of instructional procedures* reflected, it seems, the social-constructivist orientation to teaching-learning that underpinned, and informed, the PCK-for-subject-English demonstrated by Emily/Laura and Grace/Zahra/Catherine. Moreover, that PLATO, too, includes comparable foci connotes the wider-spread applicability of social-constructivist/Vygotskian theory to PCK-for-subject-English.

Having presented a conspectus of salient findings pertaining to Transformation, category synopses are, now, related in Table 58, which includes (a) the quantitative data pertaining to frequency of applicability; (b) the names of the teachers to whose pedagogy each category applied; and (c) concise descriptions of practice.

Table 58

Category synopses – Transformation

Category	Frequency of applicability			Teachers to whose pedagogy the category applied	Concise descriptions of practice
	Total Category Frequency	Total Frequency as a % of Total Dimension Frequency (actual instances, *n* = 27)	Total Category Frequency as a % of Total Frequency (actual instances, *n* = 360)		
Teacher demonstration	6	22.2	1.7	Grace, Zahra	Grace demonstrated the process of completing tasks that involved application (and clarification) graphophonic knowledge/skills: correct pronunciation of words via careful visual processing; and rhyming by attaching different onsets to a common rime. Zahra demonstrated the process of assigning each of several birds to one of two categories according to the given bird's powers of flight, thus preparing students for, or attuning them to, the demands of the subsequent Venn diagram task.

Use of instructional materials	11	40.7	3.1	Grace, Zahra, Christopher, Catherine	Applied to Grace/Zahra/Christopher/Catherine's use of commercially-produced and self-made artefacts (usually physical, paper-based) to mediate learning: • by Grace, a commercially-produced writing frame to introduce students to, and support their planning-for-writing as per, the generic composition (including lexes) of procedural text. • by Zahra, a commercially-produced table of base words and derivatives to illuminate orthographic patterns + underlying rules; eight A4-sized silhouettes of birds to illuminate the concept, and demonstrate the process, of categorisation; A4-sized copies of a Venn diagram proforma (one copy per group) and colour photographs of a peacock and swan to help students identify the "similarities and differences" (00:44:17 - 00:45:57) between these two birds. • by Christopher, post-viewing activity sheets to develop students' comprehension of *Miracle in the Jungle* and *Miracle in the Storm*; also, dictionaries were available for students to consult. • by Catherine, an A4-sized sheet of paper divided into six boxes (one copy per student) to mediate the process of completing the 'quick draw' task; an A3-sized *SPECS and SLIMS* template (one copy per student) to (a) frame, or scaffold, the process of analysing the poem, and (b) document the evidence and responses that comprised that analysis; an animated clip on YouTube to reiterate the content of the *SPECS and SLIMS* framework.
Choice of representations	2	11.1	0.8	Christopher, Catherine (tentatively)	Applied to Christopher's display of a diagram of the structure of Earth's atmosphere. The diagram provided the information the student sought, but, having not been drawn to scale, was misleading re details relevant to the content of the lesson. Applied, tentatively, to questions that Catherine posed to the class: "How are you going to draw 'black horror springing from the dark'?" (00:18:13 - 00:20:09) and "How are you going to draw ['he lies in his icy glance']?" (00:22:07 - 00:24:00). Catherine was not the agent of representation; rather, she prompted students to assume that role. These moments of pedagogical activity may, then, occupy space at the limits of *Choice of representations* (as presently defined), and suggest the description of the category could be revised to include pedagogical activity that motivates students to assume the role of 'representer'.

Choice of examples	2	7.4	0.6	Grace, Zahra	Applied to use of examples to illuminate particulars of content. Grace used a relatable example to illuminate the connection between social purpose and characteristic linguistic feature (imperative mood) of procedural text: "[Y]ou will know this – if you're trying to play a game and someone gives you the instructions, do you want to read them? … But if the instruction…tells you the action you need to do nice and simply, then you will probably read the instructions, won't you?" (01:40:01 - 01:41:35). Zahra selected *cry* to illuminate orthographic patterns and their underlying rules: "So say, for example, have a look at *cry*: *cry* ends with a *y* and has a consonant in front of it. What happens when you want to just add *-s* with *cries*?" (00:22:14 - 00:22:34).
Use of instructional procedures	5	18.5	1.4	Grace, Zahra, Catherine	Applied to Grace/Zahra/Catherine's application-coordination of "meaningful contexts for focusing on selected parts of the reading [or writing] process" that "involve[d] varying degrees of responsibility for both the teacher and the students" (Annandale et al., 2004, p. 5). Intimates familiarity with, and motivation to apply, Pearson and Gallagher's (1983) *Gradual Release of Responsibility* (GRR) model. Grace used Shared Writing, Guided Writing and Independent Writing; Zahra – Reading to Students; and Catherine – a blend of Shared Reading and Guided Reading.

Connection

Conspectus. As per Chapter 2, Connection, too, addresses cases of actual PCK: namely, those instances wherein the teacher coheres, within and between lessons, subject content, including by sagaciously sequencing that content and explicating connections between prior and current learning. This 'connective work' is informed by, and reflects, the integrity of the teacher's SMK and, also, his/her "awareness of the relative cognitive demands of different topics and tasks" (Rowland & Turner, 2007, p. 144). Thus, another of the recognised domains of PCK – knowledge of learner cognition – underpins, and finds expression within, situations captured-encompassed by Connection.

Redefined vis-à-vis subject English, two of the five of Rowland et al.'s (2005, 2009) component categories of Connection were applicable to the corpus of pedagogy demonstrated by Grace and Catherine. Thus, the generalisability of this dimension of the KQ to English teaching is, perchance, limited; moreover, the veracity of Rowland's (2013) claim regarding the robustness of the framework is, perhaps, problematised. The sorts of connective scenarios typical of mathematics teaching may seldom transpire during English teaching. Instead, the pedagogy of subject English features connective circumstances that, per their ambit and aspect, seem distinctive thereto, and the categories generated-introduced to Connection reflected, and captured, them. Moreover, the concerns-emphases of those categories parallel the concerns-emphases of elements of PLATO (Grossman et al., 2009) – *Connections to prior academic knowledge*, *connections to personal and cultural experience*, and *Guided practice*. Thus, that both frameworks feature sections with analogous foci confirms, perchance, the distinctiveness of the connective activity that comprises part of PCK-for-subject-English.

The connective work typical of the pedagogy of subject English is, it seems, tantamount to scaffolding, and comprises, therefore, a blend of (a) activation of students'

prior academic and/or personal and/or cultural knowledge; (b) sagacious concatenation of tasks and (b) ongoing guidance. As per previous discussion, the 'fuzzy', malleable nature of much of the content of subject English – which includes, often, material that concerns the personal-interior, and/or which is subjectively knowable (as per the emphases of *Cultural Heritage* and, particularly, *Personal Growth* and *Cultural Analysis*) – suggests teachers' presentation of that content to students, or their efforts to engage students with it, need *not* proceed, necessarily, according to a given, or fixed, hierarchy or logic. Indeed, by virtue of the character of that content and how it might be known, the connective activity of English teaching is, it seems, more fluid-simultaneous than defined-sequential. Nonetheless, effective connective work in English is predicated, still, on well-developed SMK and an "awareness of the relative cognitive demands of different topics and tasks" (Rowland & Turner, 2007, p. 144).

That connective work in English teaching is, perchance, tantamount to scaffolding denotes, again, the presence of social-constructivist/Vygotskian (1962, 1978) theory amid competent PCK-for-subject-English. Moreover, the quantitative data pertaining to Connection – and, particularly, the categories generated-introduced thereto – indicate that connective work – that is, *scaffolding* – represents a salient aspect of the pedagogy of subject English: indeed, it constitutes the very architecture and interactional-instructional fabric of lessons. Thus, with respect to the comparative level of applicability of each of the dimensions of the KQ-E to the corpus of pedagogy demonstrated by Grace/Zahra/Christopher/Catherine, Connection was, indeed, a 'centre of gravity': it captured, or accounted for, the largest number/proportion (175/360, 48.3%) of instances of applicability, with the category *Pedagogical cohesion: Micro-level scaffolding* alone capturing/accounting for half of Total Dimension Frequency (52.3%), and a quarter of Total Frequency (25.3%).

Having presented a conspectus of salient findings pertaining to Connection, category synopses are, now, related in Table 59, which includes (a) the quantitative data pertaining to frequency of applicability; (b) the names of the teachers to whose pedagogy each category applied; and (c) concise descriptions of practice.

Table 59

Category synopses – Connection

Category	Frequency of applicability			Teachers to whose pedagogy the category applied	Concise descriptions of practice
	Total Category Frequency	Total Frequency as a % of Total Dimension Frequency (actual instances, *n* = 174)	Total Category Frequency as a % of Total Frequency (actual instances, *n* = 360)		
Making connections between procedures	0	0.0	0.0	None	NA
Making connections between concepts	8	4.6	2.2	Grace	Illuminated conceptual links between: • orthography and phonology, explaining to students that words rhymed "'cause they've all got the same, what's the same about them? … All the same ending" (00:08:18 - 00:10:31); • different grammatical units: the subject of a sentence may be realised by a noun; • grammatical form and meaning: *conjunction* = "Ah, like a *linking* [emphasis added] word" (00:31:43 - 00:33:16); *verb* = "An *action* [emphasis added] word" (00:33:16 - 00:34:04); and • the social purpose and characteristic linguistic feature (imperative mood) of procedural text: "So the reason we put the action word first is so as soon as people read your instructions, they're going to know quickly how to…make the sandwich. So it's a speed reason and…being clear about what to do" (01:40:01 - 01:41:35).

Anticipation of complexity	5	2.9	1.4	Grace, Catherine	Applied to moments wherein the cognitive demands of content or process were pre-recognised and deliberate intervention actioned, thereby circumventing difficulties that may, otherwise, have arisen. Grace recognised that some of the students may have struggled to write a command; thus, she directed the class to "stand up and…do some actions" (00:41:43 - 00:45:10) before elaborating task requirements: "So I started that sentence with the word 'sit'. It was an action. That's what I want you to do with your partner now, is come up with a sentence using your action verb for your first word" (00:45:11 - 00:46:01). Also recognised the cognitive demands the planning task would present to the Reading Rabbits – "They do require additional support. … But those five, they do need a bit closer guidance" (Grace, post-lesson interview, 00:07:03 - 00:07:24) – and responded by applying-coordinating an appropriate instructional modality: Guided Writing. Catherine acknowledged that *The Killer* "was a tricky poem" (00:12:10 - 00:13:07) and supported students' comprehension thereof by applying-coordinating a blend of Shared Reading and Guided Reading.
Recognition of conceptual appropriateness	0	0.0	0.0	None	NA
Decisions about sequencing	0	0.0	0.0	None	NA
Pedagogical cohesion: Macro-level scaffolding	34	19.5	9.4	Grace, Zahra, Christopher, Catherine	Applied to pedagogical activity regularly demonstrated by Grace, Zahra, Christopher and Catherine. Sharpe (2001) emphasised the "importance of helping students to make explicit the connections, both backwards…and forwards" (p. 36). Thus, macro-level scaffolding was retrospective and prospective: in the context of the current teaching-learning, Grace/Zahra/Christopher/Catherine referred to concepts, vocabulary and tasks from previous lessons, and foreshadowed future interactions and learning.
Pedagogical cohesion: Micro-level scaffolding	91	52.3	25.3	Grace, Zahra, Christopher, Catherine	Applied to tasks, instructional modalities and moment-by-moment interactions that, together, comprised the educative architecture and fabric of the lesson. Micro-level scaffolding demonstrated by Grace, Zahra and Catherine appeared carefully conceived: circumscribed by (a) the goal(s) of the lesson and (b) knowledge of the potential of their students, an amalgam of ordered tasks, instructional procedures and focused transactions specifically directed, or shaped, successive elaboration of knowledge and meaning. The level of support offered to students (class, groups, individuals) was flexible, introduced/extended and retracted/withdrawn according to ongoing diagnosis of students' needs. Micro-level scaffolding demonstrated by Christopher appeared, overall, less rigorous and, even, ad hoc.

Connections within text	2	1.1	0.6	Catherine	Applied to moments wherein Catherine supported students' comprehension of *The Killer* by illuminating the poem's narrative structure and ideational logic. Addressing a component of TEXT FORM knowledge, encouraged students to see the poem as a chronologically sequenced narrative, wherein each successive stanza depicted the next moment of the narrator-protagonist's encounter with the snake: "[T]hink about what just happened in the [first stanza]…and then think about…what…they see in the reeds?" (00:16:11 - 00:18:12). Also prompted students to consider possible ESSENTIAL-level meanings of the "last bit [of the poem]" vis-à-vis the content of previous stanzas: "that is part of the message or the theme. … What does it mean?" (00:26:25 - 00:27:59).
External connectivity: Text-to-self connections	3	1.7	0.8	Catherine	Applied to moments wherein Catherine prompted students to make personal connections with the content of *The Killer*; specifically, prompted students to empathise with the narrator-protagonist – and, as such, encouraged APPRECIATIVE-level comprehension of the poem.
External connectivity: Text-to-world connections	20	11.5	5.6	Grace, Zahra, Catherine	Applied to moments wherein Grace, Zahra and Catherine made, or prompted students to make, connections between the content of the text (*Submarine Sandwich*; *Feathers and Fools*; *The Killer*) and relevant knowledge of the world. Marshalling applicable semantic knowledge (Pearson, 1976) before, during and after reading enables readers to better "comprehend [the] text through making strong connections between their prior knowledge and the new information presented in the text" (Annandale et al., 2004, p. 115). Making text-to-world connections supported students' INFERENTIAL- and/or APPRECIATIVE- and/or ESSENTIAL-level comprehension.
External connectivity: Text-to-text connections	11	6.3	3.1	Grace, Zahra, Christopher, Catherine	Applied to moments wherein Grace, Zahra, Christopher and Catherine compared/contrasted, or prompted students to compare/contrast, the content or structure of the text (*Submarine Sandwich*; *Feathers and Fools*; *Miracle in the Jungle*, *Miracle in the Storm*; *The Killer*) to/with the content or structure of another text (or type of text). 'Moving', or prompting students to 'move', between and among different texts to make these connections addressed TEXT FORM knowledge or supported students' APPRECIATIVE-level comprehension.

Contingency

Conspectus. As per Chapter 2, Contingency, too, addresses cases of actual PCK: namely, those instances wherein the teacher thinks-in-action and responds, appropriately, to the unforeseen – yet inevitable – contributions from students "that have the potential to take the teacher outside of their planned route through the lesson" (Rowland & Zazkis, 2013, p. 139). The cogency of the teacher's responses to unexpected – and, perchance, deflecting – student input (e.g., actions, answers, comments and questions) is, Rowland (2013) asserted, "undoubtedly determined…by the knowledge resources available to the teacher" (p. 26).

Redefined vis-à-vis subject English, three of the four of Rowland et al.'s (2005, 2009) component categories of Contingency were applicable to the corpus of pedagogy demonstrated by Grace, Zahra, Christopher and Catherine. Moreover, the applicability of the fourth category – *Deviation from lesson agenda* – to English teaching is entirely conceivable. Thus, the generalisability of this dimension of the KQ to English teaching is connoted, and Rowland's (2013) claim regarding the robustness of the framework is, again, bolstered. The types of contingent scenarios that surface in mathematics instruction appear to surface, also, in English instruction.

Additionally, Contingency was the only dimension of the KQ for which the need to generate-introduce new, English-distinctive categories did not arise: *all* of the contingent activity demonstrated by Grace, Zahra, Christopher and Catherine was capturable by three of the extant categories – meaning the soundness, and generalisability, of Rowland et al.'s conceptualisation is further supported.

Still, as per Chapter 4, the bulk of Catherine's lesson could, in fact, be considered a contingent response to the difficulties the students had experienced comprehending *The Killer* in the previous lesson: they had "understood a bit [of the poem], but some of them were saying things like they still thought that the snake was the main killer" (Catherine, post-

lesson interview, 00:04:09 - 00:04:15). Thus, Catherine re-taught *The Killer*, clarifying students' LITERAL-level comprehension thereof via the creating images task. Her considered, and substantive, response suggests there might, perhaps, be scope to include a category *Macro-level contingency* in the Contingency dimension of the KQ-E. Were supplementary research to indicate that suchlike activity is reasonably common to English teaching, defining-introducing a new, aptly-labelled category to the Contingency dimension of the KQ-E might, indeed, be apposite.

Of all the categories of the KQ-E, *Responding to students' ideas* had the second-highest category frequency (CF $n = 41$). Whether a moment of pedagogical activity should be categorised *Responding to students' ideas* or *Pedagogical cohesion: Micro-level scaffolding (point-of-need)* was, sometimes, difficult to determine. Scholarly literature, however, provided criteria by which the quality of teacher activity could be assessed, and the appropriate category applied. As per Chapter 2, *Responding to students' ideas* "is concerned with responding to the *unexpected* [emphasis added]" (Rowland et al., 2009, p. 37); that is, to student input that might "hijack" (Rowland et al., 2005, p. 276) the lesson – particularly such input that arises during periods of small group or whole class teaching, given the exemplar vignettes offered by Rowland et al. (2005) and Rowland et al. (2009). Micro-level scaffolding, by contrast, refers to the ongoing flow of interactional-instructional support – to "cueing, prompting, modelling, questioning, elaborating, paraphrasing, offering explanations, inviting participation and contributions, [and] clarifying understandings" (Edwards-Groves, 2003, p. 9) – that, provided according to ongoing diagnosis of the needs of individuals, small groups and the whole class – augments the cognitive potential of learners by fostering-supporting autonomous problem-solving. Thus, pedagogical activity coded *Responding to students' ideas* captured those moments wherein Grace, Zahra, Christopher and Catherine (a) evaluated, overtly or tacitly, the (in)validity of students' responses to questions, or the

(in)validity of content (e.g., comments, observations) that students offered unsolicited; or (b) provided on-the-spot 'help' that enabled a student (or small group of students) to 'get on' with completing a task. The former type of response tended to occur during periods of whole-class teaching, and the student's response, if 'correct', may have been incorporated by the teacher into ensuing discussion. The latter tended to occur while the teacher was circulating the classroom and monitoring student activity. Moments of pedagogical activity coded *Responding to students' ideas* conformed, often, to Mehan's (1979) initiation-response-evaluation (IRE) pattern of exchange, or consisted of input (e.g., brief elaborations, hints, answers) that told students what they needed to know to complete a given task. Thus, *Responding to students' ideas* comprised 'help' that indicated to students what to think and do 'here and now', whereas pedagogical activity coded *Pedagogical cohesion: Micro-level scaffolding (point of need)* consisted of support that facilitated autonomous problem-solving.

Having presented a conspectus of salient findings pertaining to Contingency, category synopses are, now, related in Table 60, which, like the preceding three tables, includes the quantitative data pertaining to frequency of applicability; the names of the teachers to whose pedagogy each category applied; and concise descriptions of practice.

Table 60

Category synopses – Contingency

Category	Frequency of applicability			Teachers to whose pedagogy the category applied	Concise descriptions of practice
	Total Category Frequency	Total Frequency as a % of Total Dimension Frequency (actual instances, *n* = 44)	Total Category Frequency as a % of Total Frequency (actual instances, *n* = 360)		
Responding to students' ideas	41	93.2	11.4	Grace, Zahra, Christopher, Catherine	Applied to moments wherein Grace, Zahra, Christopher and Catherine (a) evaluated, overtly or tacitly, the (in)validity of students' responses to questions, or the (in)validity of content (e.g., comments, observations) that students offered unsolicited; or (b) provided on-the-spot 'help' that enabled a student (or small group of students) to 'get on' with completing a task. The former type of response tended to occur during periods of whole-class teaching, and the student's response, if 'correct', may have been incorporated by the teacher into ensuing discussion; the latter tended to occur while the teacher was circulating the classroom and monitoring student activity. Moments of pedagogical activity coded *Responding to students' ideas* conformed, often, to Mehan's (1979) initiation-response-evaluation (IRE) pattern of exchange, or consisted of input (e.g., brief elaborations, hints, answers) that told students what they needed to know to complete a given task.
Deviation from lesson agenda	0	0.0	0.0	None	NA
Techer insight	1	2.3	0.3	Catherine	Applied to Catherine's recognition of potential for learning following a question posed by a student about a line in *The Killer*: STUDENT: "Why does it say 'banished into my mind'?" (00:24:42 - 00:26:24). Offered an explanation that supported students' understanding of the line, rather than ask the student (or students) for ideas: "Oh, why does it? Tricky, isn't it? … It sort of means like she…is not going to really forget it, yeah? So although…the snake's not always just going to be there dead, is it? But you remember what happened."

Responding to the (un)availability of tools and resources	2	4.5	0.6	Christopher	Responding to the availability of access to the World Wide Web via his laptop, Christopher googled and presented information that supported students' completion of tasks from the *Miracle in the Storm* worksheet: a diagram of Earth's atmosphere, which showed the names of the different layers of the atmosphere and the arrangement of those layers; and the definition of 'hibernation' from Wikipedia, which Christopher told students to write in their books.

Research Question 2: Summary

Research Question 2 asked, *What do the categories of the KQ, and any new categories, 'look like' in the context of the pedagogy of subject English? What do they capture?* The preceding conspectuses and tables provided answers to that question, highlighting salient findings vis-à-vis each of the dimensions of the KQ-E, and cataloguing results specific to each category therein. Most conspicuously, the corpus of theoretical and realised PCK-for-subject-English demonstrated by Grace, Zahra and Catherine was characterised by a social-constructivist/Vygotskian (1962, 1978) orientation to teaching-learning, evidence by their assertions regarding the role of purposeful talk therein and, moreover, the amalgam of pedagogical activity captured, especially, by *Use of instructional procedures*, *Pedagogical cohesion: Macro-level scaffolding* and *Pedagogical cohesion: Micro-level scaffolding*. That a social-constructivist/Vygotskian orientation to teaching-learning informed, and was manifested in, their PCK-for-subject-English does, in fact, parallel some of the content-emphases of PLATO (Grossman et al., 2009).

PLATO, Bell et al. (2019) noted, "privileges socioconstructivist approaches to learning" (p. 18); similarly, categories of the KQ-E capture PCK characteristic of that particular orientation to teaching-learning. Thus, the frameworks are, it seems, mutually validating; moreover, they suggest that social-constructivist/Vygotskian (1962, 1978) approaches to teaching-learning are (or should be) characteristic of the pedagogy of subject English. Interestingly, preliminary versions of the KQ featured a dimension that was called, first, 'Showing' and, then, 'Transformation, presentation and explanation'. This proto-dimension, Rowland (2008) stated, comprised "a *blend* [emphasis added] of elements of Transformation and Connection" (p. 287); moreover, the meaning of its draft titles corresponds, closely, to the notion of 'scaffolding'. As per the word 'amalgam' above – and, moreover, the Cambridge team's initial conceptualisation of the Transformation/Connection

dimensions of the KQ – the pedagogical activity captured by categories in the Transformation and Connection dimensions of the KQ-E regularly intersected. This, then, prompts thought of, and grounds for, a possible reconfiguration of the framework. The categories that reside, currently, in Transformation and Connection could, conceivably, be reassigned to a single dimension called, perhaps, *Scaffolding*, a reconfiguration and retitling that may reflect more precisely the social-constructivist/Vygotskian quality of the pedagogy demonstrated by teachers of subject English. Further research could investigate the likelihood, and veracity, of a different, more apposite, configuration of the KQ-E. Perhaps a knowledge triplet would be more fitting.

The chapter turns, now, to brief discussion of Research Question 3.

Review of Research Question 3

Preamble

Research Question 3 (RQ3) asked, *What potential might a KQ for subject English have, or demonstrate, to enhance the pedagogy of teachers of subject English?* As per Chapter 2, Bell et al. (2019) applauded "observation systems…designed to [capture] teachers' subject-specific practices" (p. 9). Having developed such a scheme – the KQ – the Cambridge team proceeded, then, to assess its value re teacher professional learning, its application being congruent with Johnson's (1991) principles thereof (see, also, Cosgrove, 2018; Edwards-Groves et al., 2014; Jensen et al., 2012; Rowland & Turner, 2007).

As per Chapter 2, Rowland et al. (2005) professed the potential of the newly-developed/presented KQ to inform pedagogical reasoning and growth of teachers' SMK and PCK via their account of "the way…the quartet can be used to identify, for discussion, matters that arise from…lesson observation, and to structure reflection on the lesson" (p. 264). Others (e.g., Abdulhamid & Venkat, 2013; Corcoran, 2007; Rowland, 2013; Rowland

et al., 2009; Rowland & Turner, 2007) did likewise. Later, others (e.g., Cosgrove, 2018; Flesvig et al., 2017; Turner, 2012; Weston, 2018) tested those claims and, indeed, demonstrated the value of the KQ vis-à-vis teachers' development of SMK and PCK for mathematics. Like Rowland et al. (2005), this project has, similarly, postulated the potential of KQ-E-mediated reflection to inform development of teachers' SMK and PCK for subject English: each of the analyses presented in Chapter 4 included a section wherein a possible focus of reflection – as revealed by the prior application of the KQ-E – was discussed. Hereunder, those sections are reviewed; thereafter, the limitations and implications of the research, and possibilities for additional inquiry, are addressed.

The Potential of *Knowledge Quartet – English*-Mediated Reflection: Grace, Zahra, Christopher and Catherine

As per Chapter 2, the KQ/-E is purposely void of appraisive lexes and devices. Nevertheless, Rowland (2013, p. 40) observed that

> [i]t would be naïve…to suggest that the mentor…makes no evaluation of what they observe. Indeed, the observer's evaluation is likely to be a key factor in the identification and prioritisation of the discussion points. In post-observation review, it is expected that the [observer] will indicate what the [teacher] did well, what they did not do and might have, and what they might have done differently. The KQ is a framework to organise such evaluative comments, and to identify ways of learning from them.

Thus, some of the moments of pedagogical activity demonstrated by Grace, Zahra and Catherine were coded *opportunely* ('O', see Chapter 3 for clarification of opportune coding). These moments were, then, presented in Chapter 4 as possible triggers for collegially-supported pedagogical reasoning and development of SMK/PCK. Table 61 reiterates,

concisely, the details of (a) the opportune codings ‘made’ vis-à-vis the pedagogy demonstrated by Grace, Zahra, Catherine, and (b) the pedagogical reasoning and development of SMK/PCK that was, subsequently, posited.

Table 61

Reiteration of details of opportune coding

Teacher	Details of opportune coding (triggers for pedagogical reasoning)		Possible pedagogical reasoning
	Category	**Details**	
Grace	*Overt display of subject knowledge*	Contrary to Grace's explanation, a simple sentence may have multiple subjects, which may be coordinated to form a single, longer noun phrase called a *compound subject*.	Develop LSK (Myhill et al., 2012) via professional reading, attending PL, dialogue with knowledgeable colleagues; co-develop a Do Daily that addressed: • that a simple sentence may contain multiple subjects (coordinated to form a compound subject); and • that *subject* may be realised in different ways.
	Responding to students' ideas	Grace did not address the orthography-phonology of *gnaw*; specifically, the vocalic digraph *-aw* (*flaw*, *raw*, *saw*).	Develop renewed consciousness of the cueing systems that students use to process text; apply that knowledge in the context of spelling program.
Zahra	*Use of English terminology*	Zahra mispronounced *consonants* as 'constonants'.	Be conscious of "model[ling] correct [language] usage" (Hill, 2006, p. 38), particularly when the subject of instruction is spelling, a process whose accuracy relies, partly, on correct pronunciation of words (Winch et al., 2010).
Catherine	*Overt display of subject knowledge*	Catherine appeared to lack comprehensive knowledge of a range of (a) possible interpretations of the poem and (b) themes explored in the poem.	Via professional reading and dialogue with colleagues, develop knowledge of the narrative structure of the poem and possible ESSENTIAL-level meanings; apply this knowledge as per the lesson plan posited in Chapter 4.
	Connections within text	Catherine failed to explicate the narrative structure of *The Killer* and link the content of each structural element to development of students' ESSENTIAL-level comprehension of the poem.	As above.
	Responding to students' ideas	Catherine failed to recognise that students' LITERAL-level comprehension of the poem was still tenuous and respond appropriately.	As above.

The process, or system, of opportune coding is, however, imperfect – or, at least, limited. As per Chapter 4, some aspects of the pedagogy demonstrated by Zahra and Christopher were, the researcher determined, problematic and, therefore, identified as triggers for pedagogical reasoning: Zahra's micro-level scaffolding of a group of students' learning of orthographic patterns and underlying rules could, perhaps, have been more rigorous; and Christopher's teaching might have benefited from a clearer sense of purpose. Yet those tracts of their teaching had *not* been opportunely coded due to the limits of the conditions of such coding. Opportune coding, as realised in this project, concerned specific moments of pedagogy that were based, clearly, on limited SMK; were 'mistakes'; or which represented missed opportunities for teaching-learning. It did *not* capture the researcher's evaluations of the quality of specific instances of teaching – or, indeed, of longer tracks of teaching. Overall, the KQ-E captures, currently, the presence, *but not the quality*, of specific instances of PCK for subject English. Weston (2013) presented a possible solution to this limitation: she conceived, fashioned and trialled a supplemented version of the KQ that, like PLATO (Grossman et al., 2009), enabled appraisal-coding of the quality of categories of PCK. A similar expansion of the affordances of the KQ-E could, perhaps, be the object of additional research. Such research would, however, demand consideration of, and development of a viable response to, a key methodological problematic: *How* might quality be defined and measured? Perhaps it is *not* a question of whether categories of PCK appear to be performed well (or not), but of whether particular transformations, connections and contingent responses are more or less successful in having the desired effects on students' learning/outcomes. As per Chapter 2, amount and quality of learning must, surely, be an indicator of instructional efficacy. Maher et al. (2015) concluded as much.

Of course, the O-motivated and researcher-determined opportunities for pedagogical reasoning and development of SMK/PCK précised above, are *hypothetical*: like the range of

similar exemplifications proffered by Abdulhamid and Venkat (2013), Corcoran (2007), Rowland (2013), Rowland et al. (2005, 2009) and Rowland and Turner (2007) vis-à-vis the KQ, they *suppose* the practical value of the KQ-E. Thus, a logical tract of additional research would echo that completed by Cosgrove (2018), Flesvig et al. (2017), Turner (2012) and Weston (2018) vis-à-vis the KQ: that is, the (assumed) practical potential of the KQ-E could be tested. Opportunities for additional research are presented shortly. First, however, another finding – unexpected, but welcome – must be related.

An Unanticipated Finding

In the course of developing the tables that comprised each of the sections *Analytical synopsis of lesson* in Chapter 4, patterns of applicability of the KQ-E to the pedagogy demonstrated by Grace, Zahra, Christopher and Catherine emerged – an eventuality that, until those tables were developed, had not been envisioned. Across each lesson, from beginning to end, the range and frequency of applicable dimensions and categories of the KQ-E fluctuated – expanding and contracting, increasing and decreasing – according to the purpose and nature of the teacher's pedagogical activity. Such variability, made visible in/by the moment-by-moment presentation of the data in the tables in Chapter 4, illuminated the ebb and flow, and nature, of the teacher's work. Each lesson, for example, was punctuated by tracts of multifaceted pedagogical activity, indicated by the expanded range and/or increased frequency – or clustering – of applicable dimensions and categories of the KQ-E. Often, these instances of clustering corresponded with, or indicated, moments of transition; moreover, they illuminated the range of pedagogical activity coordinated by the teacher during that process. In the tables of data pertaining to Catherine's pedagogy, for example, multiple dimensions and categories apply to those moments of teaching that constituted pedagogically critical junctures of the lesson, and illuminate the complex array of pedagogical work being managed by Catherine therein. Clustering of applicability was

typical, also, of tracts of pedagogical activity that involved application of a teacher-managed procedure (i.e., Shared Reading/Writing, Guided Reading/Writing): the element SHARED WRITING: ADDRESSES WHOLE CLASS at the beginning of Part 3 of Grace's lesson, for example, was characterised by 25 instances of applicability, differentially dispersed amid the four dimensions, and among 13 categories, of the KQ-E.

Evidence of patterns/fluctuations/'clusterings' of applicability of the KQ-E to the pedagogy demonstrated by Grace, Zahra, Christopher and Catherine was unanticipated, but welcome: the finding unlocks avenues of additional research. Studies dedicated to investigating profiles of applicability of the KQ-E could illuminate, for example, the range of categories of pedagogical activity that:

- form, or comprise, the architecture and fabric of lessons conducted by accomplished English teachers;
- comprise the substance of well-executed instructional procedures (i.e., Modelled Reading/Writing, Shared Reading/Writing, Guided Reading/Writing);
- are characteristic of different categories of teacher (e.g., pre-service, early career, mid-career; early childhood, primary, middle years, secondary, senior secondary); and
- populate the elements of teaching frameworks for English lessons, including, for example, the framework advanced by Edwards-Groves (1998, 2003) and those developed in/by/for schools (see, for example, Macklin & Zbar, 2017).

The findings of such research could, conceivably, have valuable implications for English teachers (pre- and in-service), teacher educators and facilitative experts (e.g., literacy/pedagogical coaches). Thus, research into these 'clusterings' of applicability does, indeed, seem worth pursuing. Other possibilities for additional research are presented shortly; they must, however, be understood vis-à-vis the limitations of the current project.

Limitations of the Study

Practical matters common to the process of completing research delimited the project. As Knobel and Lankshear (1999) noted, research must be manageable. Thus, selection of participants for Part B of the project was based on (a) the researcher's ready access to particular schools (i.e., Department of Education schools, particularly those wherein the researcher had collegial contacts) and (b) the proximity of schools/teachers to the researcher. The population from which participants were drawn for Part B of the project was, therefore, limited: data were collected from within four Department of Education schools in Tasmania. Collecting data from classrooms in schools in (a) other sectors (e.g., Catholic, independent) and (b) wider geographical regions may provide a fuller account of the pedagogy that figures in English lessons and, thence, (a) further test the rigour of the KQ-E and (b) augment the findings of this research.

Also, the size of the sample of teachers whose pedagogy was the subject of analysis for Part B of the project was small (n = 4). Moreover, for each of the four teachers – Grace, Zahra, Christopher and Catherine – one (or the equivalent one) lesson's worth of pedagogy was analysed. Given the point-of-principle aim of the project, analysis was, necessarily, comprehensive: the word count for each of the four analyses was 15,000-20,000 words. Thus, the *de*limited (cf. limited) sample/data enabled the researcher to achieve the aims of the project *and* meet the usual requirements (e.g., timeframe, word-limit) of preparing a thesis. Given the 'demarcatedness' of the sample/data-set, however, the generalisability of the findings of the project must be regarded cautiously. Indeed, the data set that was analysed reflected the proof-of-concept goal of the research. Representing subject English lessons across early childhood, middle years and high school settings, that data set befitted investigation of the macro-level issue of whether "a framework for knowledge-in-teaching developed in one subject discipline be legitimately adopted in another" (Rowland, 2013, p.

40). Consequently, the indication, for example, that novice teachers or teachers with limited subject English content knowledge demonstrate a somewhat different KQ-E profile to those teachers with more experience or stronger subject English content knowledge, should be reckoned circumspectly. Similarly, the degree to which the research might be able to speak about any differences between the KQ-E profile of subject English teaching in primary school and high school contexts is, at best, limited.

Interpretive processes are subject to influences that could, perhaps, compromise the cogency, and integrity, of analyses and findings. As per Chapter 3, development of the KQ-E, and analysis of data thereby, was meticulous. Moreover, the inter- and intra-reliability scores indicate the project findings are credible. As T. Rowland acknowledged, however, "I've been struck by the fact that my own analyses have sometimes 'missed' possible codings (noticed by others later)" (personal communication, June 29, 2017). Thus, while the project findings are credible, they might not be 'absolute' or 'final'. Also, they represent, as Knobel and Lankshear (1999) suggested, *a* construction of the reality of the pedagogy demonstrated in the observed English lessons: "there is [no] direct correspondence between research findings and a single reality that exists independently of people" (p. 89). The findings do, nevertheless, contribute to the field, furthering the researchers' (and, hopefully, others') knowledge, and understanding, of the pedagogy of subject English.

The KQ/-E framework comprises a new lens by which to investigate classroom teaching practice (Hay, Thomas, & Shorter, 2019; Oates, Callingham, Getenet, Hay, Beswick, & Thomas, 2019), and learning, thoroughly, the meaning of each of the four dimensions and 20+ categories thereof is, indeed, both intellectually challenging and time-consuming – a factor that might, perhaps, limit uptake of the KQ/-E by educationalists. This research involved extensive video-recording and interviewing of teachers, activities that required their co-operation and, also, the co-operation of their principals and the Department

of Education (Tasmania). Thus, the task of collecting the data was involved and time-consuming. Some teachers/principals/systems (and, indeed, parents) may not consent to video-recording, meaning sample selection bias may emerge. The process of preparing the data for analysis and, then, of completing the analyses was, also, involved and time-consuming: lesson and interview transcripts were prepared; thereafter, the lesson transcripts were scrutinised line by line. This complex and, sometimes, laborious process of preparing and analysing the data might present a limitation to future researchers wishing to replicate or extend the current study – and, indeed, to teachers, teacher educators and facilitative experts who might like to use the KQ-E to parse, reflect on, and develop teaching practice.

A caveat. The findings of this research are based on the pedagogy-of-subject-English demonstrated by four teachers who welcomed the researcher into their classrooms in good faith. Similarly, any future adoption of the KQ-E must, too, be undertaken with utmost sincerity. As per the responses to Research Question 3, application of the framework has, it seems, the potential to contribute to enhancement of PCK for subject English – but could, also, provoke the risk of demeaning teachers' endeavours. The KQ-E can, conceivably, be used to frame "'knowledgeable-other' analysis [of] and formative feedback [on]" (Rowland, 2013, p. 37) the pedagogy-of-subject-English demonstrated by a teacher. This would involve, of course, identifying (a) what the teacher did well, and from which s/he could learn, and, also (b) what s/he may, perhaps, have done better, and from which s/he could also learn. As Lankshear and Snyder (2000) noted, "[t]here is little point in researchers [and teachers adopting the KQ-E] if they cannot and do not [explicate] limitations as well as strengths" (p. xix). Such work, however, must always be undertaken constructively and considerately. The Cambridge team recognised "the futility of asserting what a…teacher…*ought* to know" (Rowland et al., 2005, p. 257): *You've been teaching for three years, now; you should know [about…* or *how to…* or *that…* or *what…* or *why…].* Thus, researchers and teachers who

adopt the KQ-E must assiduously quash any tendencies, however small, to criticise practice and, instead, thoughtfully enable opportunities for gainful pedagogical reasoning.

Directions for Further Research

As indicated in the preceding section, further research is needed to bolster and extend the findings presented in this thesis: analysis of data collected from a more representative sample of English classrooms would confirm, or develop, the rigour of the KQ-E, and occasion more defensible claims re the generalisability of findings. Beyond this, alternative methodologies may warrant exploration.

Immediately after each observed/video-recorded lesson, the teacher was interviewed re decisions that informed his/her pedagogical activity. Welsh and Dickson (2005) argued that video recall is a data-collection method which, by having participants re-experience and 'talk through', or theorise, events, successfully illuminates the relationship between cognition and behaviour. Thus, playing back to teachers the video-recordings of their pedagogy and asking them to narrate their thinking and/or answer questions about – or, even, self-code and/or rate the efficacy of – moments of pedagogical activity, may yield a range of interesting and, potentially, valuable findings. Moreover, utilising video recall may bolster the veracity of findings, as participants' codings, ratings and explanations of pedagogical activity could be compared to, and/or contrasted with, the codings, ratings and interpretations of the researcher.

Besides additional proof-of-concept research, investigation of the potential of the KQ-E to motivate improvement of English teachers' pedagogy would be valuable: this, after all, is why the framework was developed. *What might be the effect of orienting English teachers to categories of pedagogical activity that figure in their instruction?* For such research, video recall may, also, be appropriate: as s/he watches successive video-recordings of his/her pedagogy, an English teacher could, with the researcher (and/or other English teachers), engage in a program of regular collaborative-analysis, a model of professional development

that, Edwards-Groves (1998, 2003) argued, has 'experiential validity' for teachers and which, moreover, directly impacts their students' learning. To comprehensively investigate the potential of application of the KQ-E to enhance English teachers' pedagogy, a longitudinal study would, likely, be appropriate. A study might, for example, involve locating, and documenting the outcomes of, an *x*-years-long program of 'intervention' in English classrooms. A longitudinal study may also permit assessment of sustainability of intervention: high, or ready, sustainability, as Edwards-Groves noted, is characteristic of effective professional learning; it would, therefore, be important to document whether, or the extent to which, KQ-E-motivated changes to pedagogy were sustained post-intervention.

Following Weston's (2013) example, the affordances of the KQ-E could be expanded via development-inclusion of a protocol that enables measured judgement of the quality of teachers' PCK-for-subject-English. The affordance of the KQ-E would, then, more closely match PLATO's (Grossman et al., 2009). However, augmenting the KQ-E thusly might, perhaps, subvert the Cambridge team's original intention – namely, to use the framework to organise "analysis [of,] and formative feedback [on,] teaching" (Rowland, 2013, p. 37). Indeed, Weston's elaboration does, perhaps, nudge the KQ/-E into contentious space. Perhaps, then, abiding by the Cambridge team's original intention, and Rowland's advice, is, indeed, sufficient and, moreover, appropriate: "In post-observation review…the [observer] will indicate what the [teacher] did well, what they did not do and might have, and what they might have done differently" (p. 40).

Finally, an unexpected but interesting finding of the project – namely, the evidence of patterns/fluctuations/'clusterings' of applicability of the KQ-E to the pedagogy demonstrated by Grace, Zahra, Christopher and Catherine – could motivate a potentially significant tract of research. Studies dedicated to investigating profiles of applicability of the KQ-E – that is, to *when* during a lesson clusterings occur, and *what* categories of pedagogical activity are

involved in those clusterings – could, perhaps, be useful to those concerned with the pedagogy of subject English: the findings of such research could, for instance, inform the development of conceptual frameworks that support teachers, pre-service teachers, teacher educators and researchers to identify/examine/develop specific categories of instructional practice to improve learning outcomes for students. Illuminating profiles of applicability (e.g., for the pedagogy demonstrated by different categories of English teacher; for the application of different instructional procedures) and exploring how that information could be usefully applied by teachers, pre-service teachers, teacher educators and researchers will be the focus of the next iteration of the researcher's ongoing program of study concerning the content, structure and potential of the KQ-E.

The chapter turns, now, to review of the implications of the research.

Implications of the Research

The research was, primarily, proof-of-concept, undertaken to examine the researcher's conjecture that Rowland et al.'s (2005, 2009) theory – the KQ – might apply, also, to English teaching, and therefore illuminate PCK-for-subject-English. The finding? The KQ did, indeed, apply to English teaching, thus capturing PCK therefor – *mostly*. The resulting product, the KQ-E, is prototypical, representing "a first attempt at making a working model that might be real-world usable" (Singaram & Jain, 2019, para. 3). Application of the KQ-E to pedagogy demonstrated by Grace, Zahra, Christopher and Catherine revealed the model is, indeed, workable. Nevertheless, its prototypical nature introduces a key implication: namely, the requirement, as previously discussed, for "extensive 'theoretical sampling' [of the (prototypical) KQ-E]…in the analysis of other [English] lessons" (Rowland, 2013, p. 21) so it, too, becomes "comprehensive as a tool for thinking about the ways that content knowledge comes into play in the [English] classroom" (p. 21). The KQ was developed, initially, with reference to pedagogy demonstrated by 12 teachers across 24 mathematics lessons; the KQ-E

must, likewise, be honed vis-à-vis a similar quantity of data. Thus, the chief implication of the research: extensive testing of the current iteration of the KQ-E.

The preceding implication pertains to findings vis-à-vis RQ1. Findings vis-à-vis RQ2 and RQ3, too, present implications. Namely, they contribute, perhaps, to three interconnected domains of educational discourse: theory, practice and policy. Hereunder, implications of the findings vis-à-vis RQ2 and RQ3 are described, thus informing interested educationalists occupying various tiers of inquiry.

Theory. The findings of the project inform conceptualisations of PCK for subject English. The foremost outcome of the research was the development of a theoretical product – the KQ-E, an empirically-based conceptual framework that might enlighten teachers', pre-service teachers', teacher educators' and researchers' conceptions of PCK for subject English. Currently, the KQ-E proposes 28 categories of pedagogical activity differentially distributed across the four dimensions of Foundation, Transformation, Connection and Contingency. The framework therefore offers educationalists new possibilities re the content, and organisation, of theories of PCK for subject English – thus occasioning, perhaps, reconceptualisations that usefully inform various lines of inquiry.

The findings illuminated the primacy of a clear sense of instructional purpose, explicated to students. A precise and transparent instructional objective – expressed, often, in student-friendly terms (e.g., *We are learning to…*) – drives, and informs the content and organisation of, teaching: from it, various categories of pedagogical activity emerge, unfold, intersect and combine, forming the architecture and interactional-instructional fabric of the lesson. The pedagogy-shaping role of a precise and transparent instructional objective has implications vis-à-vis teachers', pre-service teachers', teacher educators' and researchers' conceptualisations of teaching-learning, challenging, perhaps, orientations that conceive of teaching-learning as "[i]mplicit…[involving] instructional tasks that do not provide specific

guidance on what is to be learned from the task" (LearningLab, 2010, para. 1). Recalling the polemic debate regarding implicit-explicit modes of English/literacy teaching-learning, the project findings imply that well-defined, explicated instructional purpose underpins thoughtful, systematic – indeed, *effective* – application of PCK-for-subject-English. As Hattie and Clarke (2019) observed, "[s]haring learning intentions is a fundamental requirement…for learning" (p. 52). Lankshear (1998) concurred: "[Teachers] should 'spell out' and 'bring to the surface' as concretely and tangibly as [they] can those things that underlie the learning task and the thing to be learned" (p. 122).

Also, the findings indicated that English teachers' theories of learning incorporated, often, (a) Vygotskian (1962, 1978) assumptions regarding the cognitive context, and inter-psychological process, of learning, and (b) conceptualisations that complemented those assumptions. Recognising that face-to-face, talk-mediated encounters constitute the fundamental vehicle of learning, regular opportunities for 'turn-and-talk' – followed, often, by whole-class-sharing – comprised the interactive-instructional conduit by which students were able to share knowledge and negotiate meaning. Moreover, those opportunities for defined interaction, and sharing, were located within, and formed segments of, tracts of teaching that, responsive to students' diverse cognitive 'potentials', or zones of proximal development (Vygotsky, 1978), included appropriate types, and degrees, of scaffolding. The relevance, and potential, of 'theoretical underpinnings of pedagogy' for English that recognise and meld Vygotskian theory and Wood, Bruner and Ross' concept of scaffolding, has been thoroughly researched (e.g., Andresen, 2005; Martin, 1992, 1999; Rothery, 1994; Wells, 2009). Thus, the findings of the project intimate, and contribute to conversation about, the pedagogic value of socially-oriented, language-based theories of learning for English wherein talk comprises the medium of cognitive activity and knowledge is

'negotiable', co-constructed via the interactions located within, or which comprise, scaffolded tasks that successively elaborate, (re)shape and refine that knowledge.

Practice. The KQ-E might present implications vis-à-vis the practice of the pedagogy of subject English. This is, after all, the point of the framework. Like Rowland et al.'s (2005, 2009) KQ, the KQ-E is – or, rather, could be – an instance of a theoretical loop. That is to say, a conceptualisation of PCK-for-subject-English – the KQ-E – has been developed by studying teachers' pedagogy; now, that conceptualisation could present thereon. Pedagogical reasoning, Grossman and Shulman (1994) contended, is a primary locus of development of PCK, and formulating means to foster and, moreover, *focus* that process of intellectualising and refining teaching is, they declared, worthwhile. Edwards-Grove (2003) agreed. Cosgrove (2018), Flesvig et al. (2017), Turner (2012) and Weston (2018) confirmed the value of KQ-mediated reflection-on-practice. Similarly, KQ-E-mediated reflection-on-practice might, too, affect growth of teachers' PCK-for-subject-English, particularly when completed vis-à-vis the range of conditions stipulated by Johnson (1991), Turner and Rowland (2008), Jensen et al. (2012) and Cosgrove (2018). Again, *What might be the effect of orienting English teachers to categories of pedagogical activity that figure in their instruction?* The KQ-E could motivate teachers to consider their practice "in a focused and analytic way" (Edwards-Groves, 2003, p. 92) and, thereby, improve their teaching.

The findings of the project indicate, also, that English teachers, to affect quality teaching-learning, should cultivate those categories of pedagogical activity that characterise purposeful social-constructivist/Vygotskian (1962, 1978) approaches to instruction, including: *Awareness of purpose*; *Use of instructional procedures*; *Pedagogical cohesion: Macro-level scaffolding*; and *Pedagogical cohesion: Micro-level scaffolding*. The findings indicate, too, that primacy of well-developed – indeed, *accurate* – SMK is key to competent

teaching, enabling teachers to avoid, at least, inadvertently presenting erroneous information to students. Ball (1988) remarked that "[k]nowledge of [subject] is basic to being able to help someone else learn it" (p. 43). Teachers, assumedly, would never hope to invoke misconceptions among their students. Their SMK must, then, be well-developed; and while the process of developing comprehensive SMK might, indeed, "be done by individuals on their own initiative" (Lankshear & Snyder, 2000, p. 132), a collaborative approach – consistent, indeed, with social-constructivist orientations to learning emphasised herein – would, perhaps, be more profitable. As Johnson (1991) stated, effective professional development "involves groups of teachers rather than individuals from a school. … [Teachers] must work with each other to learn from each other" (p. 3).

Policy. As per Chapter 2, "prospective or beginning teachers usually have little or no PCK at their disposal" (van Driel et al., 1998, p. 677) and "are still in the process of developing a repertoire of instructional strategies and representations" (Grossman, 1990, p. 9). These observations indicate, perhaps, a need for policy change vis-à-vis the emphases of pre-service teacher education courses and programs of support for beginning teachers – namely, that development of PCK should be central thereto. Moreover, as "[pedagogical] content knowledge…is most clearly seen in the act of teaching" (Rowland et al., 2009, p. 25), courses/programs wherein examination of PCK occurs via observation-analysis of actual classroom practice, are recommended. The KQ-E could circumscribe the process of examination. Indeed, Weston (2018) selected categories of Rowland et al.'s (2005, 2009) KQ to delimit her pre-service teachers' observation-analysis of PCK-for-mathematics-teaching and, further, their planning-for-mathematics-teaching. This, she demonstrated, is efficacious: her students' lesson plans, for example, "are much more focused on core mathematical ideas and more specific than plans [written] prior to my integration of the KQ" (p. 81). Thus, the KQ-E could, similarly, be central to courses of pre-service teacher

education, and programs of in-service PL, that prioritise development of PCK (for English) – particularly, perhaps, those categories of PCK that characterise purposeful social-constructivist/Vygotskian (1962, 1978) approaches to (English) instruction. Thus, such application of the KQ-E might, indeed, represent a method of addressing van Driel et al.'s above-cited concern and, thence, of cultivating quality teaching-learning in subject English.

Chapter Summary

In this chapter, the findings pertaining to each of the research questions were discussed. With respect to RQ1 and its subsidiaries, 15/20 (or 75% of the) categories of the KQ applied, differentially, to the corpus of pedagogy-of-subject-English demonstrated by Grace, Zahra, Christopher and Catherine. Re the five remaining categories, non-applicability was due, either, to:

- straightforward non-display of trigger pedagogy (as with *Deviation from lesson agenda*);
- subsumption of the category with a newly generated-introduced category (as with *Recognition of conceptual appropriateness* and *Decisions about sequencing*); or
- (apparent) non-amenability to the epistemological-pedagogical context of subject English (as with *Concentration on procedures* and *Connections between procedures*).

Factors that might have figured amid the generation-inclusion of the new categories were considered: teaching experience, system characteristics, and methodological processes. Still, the nature of the content of subject English was, seemingly, central: "[T]he structure and syntax of the subject [did, indeed,] affect instructional processes" (Baumert et al., 2010, p. 165) – a point underscored by the fact that PLATO (Grossman et al., 2009) references comparable pedagogical activity, including scaffolding.

With respect to RQ2, the dimension-level conspectuses revealed, most notably, that social-constructivist/Vygotskian (1962, 1978) theory underpinned, and found expression within, the PCK-for-subject-English demonstrated, particularly, by Grace, Zahra and Catherine. Their lessons were characterised by purposeful scaffolding, which, comprised of a meld of static supports and moment-by-moment transactions, brought "learner[s] closer to a state of [desired] competence" (Maybin, Mercer & Steirer, 1992, p. 188). With respect to RQ3, the potential of KQ-E-mediated pedagogical reasoning was précised vis-à-vis the opportune codings previously applied to aspects of the pedagogy demonstrated by Grace, Zahra, Christopher and Catherine.

Limitations of the project were acknowledged and, vis-à-vis same, opportunities for additional research proposed – most notably, ongoing theoretical sampling of the KQ-E. Exploration of the process and value of KQ-E-mediated pedagogical reasoning would, too, comprise a worthwhile tract of inquiry; likewise, investigation of the clustering of categories of pedagogical activity within English lessons. Finally, implications of the research were presented – chief among which is, indeed, the need for more extensive testing of the current iteration of the KQ-E. Beyond that, the findings of the project inform, perhaps, three interconnected domains of educational discourse: theory, practice and policy. Vis-à-vis theory, the KQ-E might usefully inform teachers', pre-service teachers', teacher educators' and researchers' conceptions of PCK for subject English; vis-à-vis practice, it might circumscribe the process of pedagogical reasoning and, thus, motivate quality teaching-learning in subject English; and vis-à-vis policy, its development articulates with, and invigorates, calls for pre- and in-service teacher education/PL programs that emphasise development of PCK-for-subject-English.

Together, the following sections of the chapter – a précis of the project and short envoi statement – conclude the thesis.

Précis of the Research Project

The project sought to address the present concentration of mathematics- and science-based theories of PCK by developing-proposing a practice-based conceptualisation of PCK for subject English. The product of that endeavour – the *Knowledge Quartet – English* (KQ-E) – constitutes a theoretical framework by which educationalists might cognise, parse, reflect on, and, perhaps, develop classroom teaching in/for subject English,

The KQ-E was generated by systematically testing the applicability of Rowland et al.'s (2005, 2009) 20-category *Knowledge Quartet* (KQ) to the pedagogy-of-subject-English demonstrated by six teachers: Emily and Laura (Pilot Study), and Grace, Zahra, Christopher and Catherine (Main Study). Most of the categories of the KQ applied; of the few that did not, only two are, perhaps, genuinely immaterial to (subject) English teaching. Testing/analysis occasioned, also, eight categories of pedagogical activity that appear distinctive to (subject) English teaching.

In generating the 28-category KQ-E, the project presented, also, a detailed picture of the pedagogy of subject English demonstrated by the teacher-participants and, as well, indicated the potential of the KQ-E to mediate professional development in/for that subject.

The findings indicated that social-constructivist/Vygotskian (1962, 1978) theory shapes, it seems, the PCK of subject English. Sequenced "opportunities and encounters that directly and appropriately engineer[ed] mediation [of students' learning]" (Alexander, 2005, p. 2) were customary: most lessons featured well-ordered static supports – that is, designed-in scaffolding – that comprised an architecture by which – and, via the talking-to-learn it fostered, through which – students' knowledge and skills were cumulatively developed. Within those architectures, opportunities for purposeful student-student dialogue, and/or incisive point-of-need scaffolding, were common. With regard to appreciative- and essential-level comprehension of literary text, students' individuality-subjectivity was valued, and their

life experiences and world-knowledge were recognised as drivers of these levels of comprehension.

KQ-E-mediated reflection-on-teaching-practice may well constitute a profitable means of developing PCK for subject English. The value of theory, Lewin's (1951) maxim reminded, can be gauged by its potential to usefully address concrete problems: "There is nothing so practical as a good theory" (p. 169). Similarly, Kolt (2009) stated that "research findings are only as valuable as how well they can be put into practice to improve outcomes" (p. 251). The KQ-E is, conceivably, highly practicable theory, enabling teachers (of subject English) of all career stages to consider their practice "in a focused and analytic way" (Edwards-Groves, 2003, p. 92) and, thereby, of cultivating aspects of that sphere of knowledge – PCK – so critical to quality teaching and student achievement. Thus, herein lies, perhaps, the foremost – albeit latent – value of the project, magnified by current multi-stakeholder debate regarding the quality/performance of Australia's school education system and, by extension, teachers' expertise: application of the KQ-E might positively affect teachers' pedagogy of subject English, thus occasioning, hopefully, enhanced student learning and achievement therein. Future research may determine the practical significance of the KQ-E.

Envoi Statement

The several national initiatives and concerns listed in Chapter 1 reveal the profusion of discourse, entered into by multiple stakeholders, that comprises a variegated and, sometimes, contentious backdrop to Australia's school education system and, indeed, the very practice of teaching. Furthermore, they demonstrate, perhaps, the value the Australian public ascribes to schools, teachers and teaching, particularly vis-à-vis the country's socioeconomic fabric: "Education has the power to transform lives. It supports young people to realise their potential by providing skills they need to participate in the economy and is

society, and [contributes] to every aspect of their wellbeing" (Education Services Australia, 2019, p. 2). They remind, too, that debate concerning the practices and products of teaching is loudest, often, around subject English. As Christie and Macken-Horarik (2007) observed:

> English [is] the most important subject in the school curriculum, its status rivalled only by the claims of mathematics, though arguments about both the contents of mathematics and its pedagogy have never rivalled those about subject English. In fact, subject English has always been a highly contested site in the school curriculum, not least because discussion about education in the national language has been intimately bound up with discussion of matters to do with the national psyche and identity, as well as with notions of the economic and social good of English-speaking countries. (p. 156)

Thus, English teaching matters. Given this, pedagogical content knowledge that characterises-drives effective English teaching also matters (Jensen et al., 2012). Consequently, efforts to illuminate, and means to cultivate, PCK for subject English are worthwhile. The researcher hopes the *Knowledge Quartet – English* will someway prove opportune regarding such endeavours.

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Appendices

Appendix A. Permission from the University of Tasmania's Human Research Ethics Committee to conduct the research

Social Science Ethics Officer
Private Bag 01 Hobart
Tasmania 7001 Australia
Tel: (03) 6226 2763
Fax: (03) 6226 7148
Katherine.Shaw@utas.edu.au

HUMAN RESEARCH ETHICS COMMITTEE (TASMANIA) NETWORK

7 March 2013

Assoc Prof Rosemary Callingham
Faculty of Education
Locked Bag 1307

Sent via email

Dear Assoc Prof Callingham

Re: MINIMAL RISK ETHICS APPLICATION APPROVAL
Ethics Ref: **H0013090 - Powerful Knowledge: Mapping out Standards of Teachers' Knowledge for Teaching Mathematics and English to Achieve the Goals of the Curriculum**

We are pleased to advise that acting on a mandate from the Tasmania Social Sciences HREC, the Chair of the committee considered and approved the above project on 6 March 2013.

This approval constitutes ethical clearance by the Tasmania Social Sciences Human Research Ethics Committee. The decision and authority to commence the associated research may be dependent on factors beyond the remit of the ethics review process. For example, your research may need ethics clearance from other organisations or review by your research governance coordinator or Head of Department. It is your responsibility to find out if the approval of other bodies or authorities is required. It is recommended that the proposed research should not commence until you have satisfied these requirements.

Please note that this approval is for four years and is conditional upon receipt of an annual Progress Report. Ethics approval for this project will lapse if a Progress Report is not submitted.

The following conditions apply to this approval. Failure to abide by these conditions may result in suspension or discontinuation of approval.

1. It is the responsibility of the Chief Investigator to ensure that all investigators are aware of the terms of approval, to ensure the project is conducted as approved by the Ethics Committee, and to notify the Committee if any investigators are added to, or cease involvement with, the project.

2. Complaints: If any complaints are received or ethical issues arise during the course of the project, investigators should advise the Executive Officer of the Ethics Committee on 03 6226 7479 or human.ethics@utas.edu.au.

3. Incidents or adverse effects: Investigators should notify the Ethics Committee immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.

4. Amendments to Project: Modifications to the project must not proceed until approval is obtained from the Ethics Committee. Please submit an Amendment Form (available on our website) to notify the Ethics Committee of the proposed modifications.

5. Annual Report: Continued approval for this project is dependent on the submission of a Progress Report by the anniversary date of your approval. You will be sent a courtesy reminder closer to this date. **Failure to submit a Progress Report will mean that ethics approval for this project will lapse.**

6. Final Report: A Final Report and a copy of any published material arising from the project, either in full or abstract, must be provided at the end of the project.

Yours sincerely

Katherine Shaw
Ethics Officer
Tasmania Social Sciences HREC

Appendix B. Permission from the Department of Education (Tasmania) to conduct the research

Department of Education
EDUCATIONAL PERFORMANCE SERVICES

2/73 Murray Street, Hobart
GPO Box 169, Hobart, TAS 7001 Australia

Tasmania

File: 2016-19

10 May 2016

Mr David Shorter

TAS 7001

Dear Mr Shorter

Understanding English teaching: Exploring the beliefs, knowledge and practice of English teachers

I have been advised by the Educational Performance Research Committee that the above research study adheres to the guidelines established and that there is no objection to the study proceeding.

Please note that you have been given permission to proceed at a general level, and not at individual school level. You will still need to seek permission from the principal of the school to be involved in the study. Please provide them with the File number or a copy of this letter when approaching them for assistance.

A copy of your final report should be forwarded to Educational Performance Services, Department of Education, GPO Box 169, Hobart, 7001 at your earliest convenience and within six months of the completion of the research phase.

If you have further questions or concerns please contact Fiona Atkins on (03) 6165 5706.

Yours sincerely

Jonathan Moritz, Principal Education Review Officer
Educational Performance Services

Appendix C. Information sheet for teachers and principals

Private Bag 1307 Launceston
Tasmania 7250 Australia
Tel: (03) 6324 3265
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www.utas.edu.au

FACULTY OF EDUCATION

UTAS

UNIVERSITY OF TASMANIA

The *Knowledge Quartet* and the Pedagogy of Subject English: Applicability, Realisation, and Implications

(part of the *Powerful Knowledge* project)

Information Sheet

Dear colleague,

You are invited to participate in part of a nationally significant research project called *Powerful knowledge: Mapping out standards of teachers' knowledge for teaching Mathematics and English to achieve the goals of the curriculum*. The *Powerful Knowledge* project is being led by Associate Professor Rosemary Callingham of the School of Education at the University of Tasmania and is funded by the Australian Research Council through its Discovery Grants Scheme.

The sub-project for which your participation is sought is called *The Knowledge Quartet and the pedagogy of subject English: Applicability, realisation, and implications*. The study is being completed by David Shorter to fulfil the requirements of the Doctor of Philosophy (PhD) degree with the Faculty of Education at the University of Tasmania.

The aims of the *Knowledge Quartet* sub-project are:

- To determine the extent to which the *Knowledge Quartet* framework applies to the pedagogy of subject English
- To conceptualise the *Knowledge Quartet* framework vis-à-vis the pedagogy of subject English
- To determine what potential a *Knowledge Quartet* framework for subject English might have, or demonstrate, to enhance the pedagogy of teachers of subject English

You have been invited to participate in *Knowledge Quartet* because you are an English teacher working in a Department of Education (Tasmania) (DoETas) primary or high school. DoETas English teachers working at a range of year levels, and from all career stages, have been invited to participate via personal request from the researcher, David Shorter.

Participation involves the following:

- At mutually convenient times, the video-recording of three of your English lessons, all with the same class of students (and ideally at weekly intervals). The researcher will locate himself at the back of the classroom with the video camera. You will be asked to wear a lapel microphone to ensure quality audio capture.
- At the conclusion of each video-recording, a post-lesson interview with the researcher, in which you will be asked to share the decision-making that informed the planning and delivery of your lesson, and the thinking you "did" during the lesson, including how you managed opportunities for unexpected teaching and learning in response to student input. Each post-lesson interview will be audio-recorded.

- When all video-recording has been completed, a final, follow-up interview with the researcher, in which you will be asked to share your beliefs about the purpose of English. The interview will be audio-recorded.

Benefits of participation include:

- sharing and discussion of your expertise in English teaching, including the beliefs, knowledge and practices that are key to your work as an English teacher
- contribution to the development of a framework that supports understanding of the complexities of the work of English teachers
- contribution to understanding of sustainable ways to develop teacher knowledge for English teaching
- contribution to the development of benchmarks as per Aim 2 of the *Powerful Knowledge* project

As well, you will be given copies of all of your video- and audio-recordings for your own interest, reflection and professional self-learning.

The *Powerful Knowledge* project, of which *Knowledge Quartet* is part, has been approved by the Tasmanian Social Sciences Human Research Ethics Committee and DoETas. There are no specific risks associated with participating in the study. Participation is voluntary and there are no personal or professional consequences associated with declining to participate. Further, if you elect to participate then change your mind, you may withdraw from the study at any time without prejudice; please note, however, that information you provide up to the point of withdrawal will still be used for the purposes of completing the study.

The information you provide (i.e., the video- and audio-recordings) will be treated confidentially: publications and presentations arising from the project will NOT include your name, the name of the school at which you work, or any other identifying information. The video- and audio-recordings will be stored as password-protected computer files on secure servers at the University of Tasmania for a minimum of five years from the date of publication of the first manuscript (e.g., journal article) pertaining to the study, then destroyed.

Your participation in *Powerful Knowledge* and, more specifically, *Knowledge Quartet* would be appreciated. If you would like to take part in the study, please complete and sign the attached consent form.

Keep this information letter in the event that you wish to contact the researcher and/or his supervisors with any questions that you may have about the study.

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04

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Appendix D. Consent form

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FACULTY OF EDUCATION

UNIVERSITY OF TASMANIA

The *Knowledge Quartet* and the Pedagogy of Subject English: Applicability, Realisation, and Implications
(part of the *Powerful Knowledge* project)

Consent Form

The Knowledge Quartet and the pedagogy of subject English: Applicability, realisation, and implications is part of a larger, ARC-funded project (DP130103144) called *Powerful knowledge: Mapping out standards of teachers' knowledge for teaching Mathematics and English to achieve the goals of the curriculum*. Details about the *Powerful Knowledge* project and *Knowledge Quartet* sub-project are provided in the Information Sheet attached to this consent form.

Consent to participate:

1. I agree to take part in the research study named above.
2. I have read and understood the Information Sheet for this study.
3. The nature and possible effects of the study have been explained to me.
4. I understand that participation involves the following:
   - the video-recording of three of my English lessons, all with the same class of students (and ideally at weekly intervals). I will be asked to wear a lapel microphone during each video-recording session.
   - in which you will be asked to share the decision-making that informed the planning and delivery of your lesson, and the thinking you "did" during the lesson, including how you managed opportunities for unexpected teaching and learning in response to student input. Each debriefing interview will be audio-recorded.
   - when all video-recording has been completed, a 30 minute interview with the researcher, in which I will be asked to share my beliefs about the purpose of English. The interview will be audio-recorded.
5. I understand the project has received approval from the relevant agencies and involves no specific risk to me.
6. I understand that all data will be stored as password-protected files on secure University of Tasmania servers for five years from the date of publication of the first manuscript pertaining to the study, then destroyed.
7. Questions that I have asked about the study have been answered to my satisfaction.
8. I understand the researcher will maintain confidentiality and that information I supply to the researcher will be used only for the purposes of completing the research, research dissemination and related educational objectives.
9. I understand that research findings will be published such that I cannot be identified as a participant.
10. I understand that my participation is voluntary and that I may withdraw from the study at any time without prejudice. I understand that information I provide up to the point of withdrawal will still be used for the purposes of completing the study.

Participant's name: _____

Participant's signature: _____

Date: _____/_____/2016

Statement by investigator:

☐ I have explained the project and the implications of participation to this volunteer and I believe the consent is informed and that s/he understands the implications of participation.

If the investigator has not had the opportunity to talk to the participant prior to him/her participating, the following must be ticked:

☐ The participant received the Information Sheet on which my details were provided and therefore had the opportunity to contact me prior to consenting to participate in this study.

Investigator's name: _____

Investigator's signature:_____

Date: _____/_____/2016

Appendix E. Information sheet for students and parents

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FACULTY OF EDUCATION

UNIVERSITY OF TASMANIA

The *Knowledge Quartet* and the Pedagogy of Subject English: Applicability, Realisation, and Implications

(part of the *Powerful Knowledge* project)

Student and Parent/Guardian Information Sheet

Dear Parent/Guardian,

Your child's teacher, with permission from the school principal and Department of Education, has agreed to participate in a research project called *The Knowledge Quartet and the pedagogy of subject English: Applicability, realisation, and implications*. The *Knowledge Quartet* project is being completed by David Shorter, a PhD Candidate with the Faculty of Education at the University of Tasmania, and is part of a larger project called *Powerful knowledge: Mapping out standards of teachers' knowledge for teaching Mathematics and English to achieve the goals of the curriculum*. The *Powerful Knowledge* project is being led by Associate Professor Rosemary Callingham. Both projects have been approved by the Tasmanian Social Sciences Human Research Ethics Committee.

The researcher, David Shorter, will observe and videorecord three of your child's English/literacy lessons. The focus of these observations/videorecordings will be the teacher's knowledge and actions: your child will simply participate in the classroom learning as s/he normally would. During observation/video-recording, David will not interact with the teacher or students in any way: he will simply observe and take notes. No student work will be collected.

The videorecording of the lessons will be inclusive of the whole classroom. This means your child may be visible in the video data, but only in the context of a wide-angle shot. The videorecordings will be treated confidentially: they will be stored as password-protected files on a secure server and no-one beyond the abovementioned projects will see them. They will be deleted within five years of the completion of the projects. Publications arising from the research will not include any information that identifies your child or his/her school.

You can, of course, elect to have your child absented from the lessons to be observed/videorecorded. Please let your child's teacher know if you would like this to happen. Equivalent work and supervision will be provided in another classroom. Also, you can negotiate the researcher's use and non-use of data to be collected, up until the observation/videorecording of that lesson takes place.

If you have any questions about the *Knowledge Quartet* and/or *Powerful Knowledge* projects, or would like to discuss the researcher's use and non-use of data, please contact one of people listed on the other side of this sheet.

This information is for you to keep.

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04

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Appendix F. Emily and Laura: Descriptive synopses of lessons

Emily: Descriptive Synopsis of Lesson

Emily has 18 students in her Grade 1/2 class and, at the time of observation, was supported by a Teacher Aide for the duration of the lesson. She began the lesson with a 'big book experience' that lasted 7 minutes. Emily sat on a chair adjacent to the whiteboard at the front of the classroom and all the students sat on the floor in front of her. The big book, *Dragons! Dragons! Dragons!* (Feana Tu'akoi, author; Donovan Bixley, illustrator), was placed on the easel beside Emily. The book told the story of a group of four lonely dragons and their efforts to befriend the people who lived in a nearby town. It featured substantial dialogue, much of it repetitive. Before reading aloud to the students, Emily drew the students' attention to the purpose of the reading: "OK, we're going to read this one then we're going to see if anyone can find some speech marks, OK?" (00:00:08 - 00:00:12). As Emily read the story to the students, she pointed to each of the words. The students read along with her, quickly becoming familiar with the pattern of the story: they were most vocal whenever the townspeople cried, "Dragons! Dragons! Dragons!" (00:01:21 - 00:01:24). Twice during the read-aloud, Emily called for a volunteer to come forward and point to the speech marks. As well, Emily posed questions to support students' comprehension of the story: "Why are they running around screaming, 'Dragons! Dragons!'?" (00:01:36 - 00:01:40). To conclude the read-aloud, Emily reinforced the purpose of speech marks in terms of their role in supporting expressive reading: "So just remember, if you see these things what are these things called? ... That means somebody is speaking, so if you see speech marks in your reading book today, maybe you can sound like the person who is speaking or the character who is speaking" (00:05:23 - 00:05:40).

For the second part of the lesson, which lasted 50 minutes, the students returned to their table groups – the Elephants, Monkeys, Penguins and Tigers – to complete activities

from the ‘reading wheel’ that Emily used to manage small-group learning in her classroom. These activities included: a “blend activity” (00:06:15 - 00:06:16) that addressed the *d-r* blend (as in *dr*agon); searching magazines for images of “things that start with the letter ‘a’, because that’s our letter of the week” (00:06:30 - 00:06:33); reading an ‘I-spy’ book; working “on the iPad, doing the reading app” (00:06:38 - 00:06:40); completing a floor puzzle; “playing ‘Reading Eggs’ on the computers” (00:06:47 - 00:06:49); independent reading; “learning…spelling words” (00:06:51 - 00:06:52); and making a dragon from a paper cup and other craft supplies.

Before the Elephants, Monkeys, Penguins and Tigers moved to their tables to complete their set activities, Emily asked a group of four students to remain on the floor so that she could introduce them to a “follow-up activity from yesterday” (00:07:55 - 00:07:57). The students had been asked to re-read a book, *Sprats*, for homework and Emily explained a sequencing task that each of the students was now required to complete.

As the students completed the activities from the reading wheel, Emily called pairs or small groups of students to the floor for guided reading. The focus of each guided reading session was different. In the first session, Emily addressed 10 sight words; in the second session, she addressed ‘word attack’ skills – “So if you don’t know a word, it’s really important that you look at the first letter and get your lips ready to read. So if you find a word a bit tricky, do we just sit there and say nothing? … We can look at the first letter to give us a little clue” (00:21:43 - 00:22:03); in the third session, she addressed suffixes (*-ed*, *-ing* and *-s*); and in the fourth session, she addressed “learning to read speech marks” (00:45:21 - 00:45:23) to add expression to reading.

The lesson concluded with students “tidying up” (00:51:05 - 00:51:06) before being dismissed for recess.

Laura: Descriptive Synopsis of Lesson

Laura has 19 students in her Grade 1/2 class and, at the time of observation, was supported by a Teacher Aide for the duration of the lesson. She began the lesson with a 10-minute modelled writing session. Laura sat on a bench in front of the whiteboard and all the students sat on the floor in front of her. She introduced the focus of the modelled writing session: "[W]e haven't done our recount writing for a very long time, so we're going to do a bit of *recounts* today" (00:00:47 - 00:00:52). A question-answer exchange followed, in which Laura addressed the purpose and structure of the recount genre. She discussed structure in detail, which included referring to material displayed on the classroom wall to remind the students that a recount relates events chronologically. She emphasised this point by recalling the time when a police officer had visited the class: "Now doing the recount for that, you wouldn't say…" (00:02:02 - 00:02:04) – Laura then recounted the events of the visit non-chronologically. This initial discussion lasted 4 minutes. Laura then modelled the process of writing a recount of the events of her weekend. On the whiteboard, she wrote the beginning of her recount *onthewEEKendD*. She acknowledged that she had "made a few mistakes" (00:03:50 - 00:03:52) and asked the students to help her correct them. Laura rewrote the opening phrase of her recount correctly then, thinking aloud, listed the adverbs *then*, *after* and *next* on the board. She explained, "these words help put things in order" (00:05:42 - 00:05:45). She then recounted, orally, her weekend, using these adverbs to relate events chronologically. She wrote her recount on the whiteboard. As she wrote, she thought aloud about observing basic conventions of print: beginning each sentence with a capital letter, leaving a space between each word, and marking the end of each sentence with a full stop. She read her completed recount to the students. Before the students moved to their tables to begin writing, Laura called for volunteers to recount, orally, the events of their weekends. Three students shared what they had done. Laura supported them as they spoke,

interjecting and inserting, as necessary, the adverbs *then, after* and *next* to sequence the events that each student was listing. Students collected their Journal Writing books from the boxes beside Laura and moved to their tables to begin writing.

The second part of the lesson lasted 50 minutes. Students sat in their designated seats and wrote their recounts. Amid the process of writing, many students engaged in conversation with their table group peers, enthusiastically sharing the details of the activities in which they had participated on the weekend. All but a small number of students worked without Laura's direct support.

Laura sat at a desk adjacent to the whiteboard with three students for whom English was a newly additional language. She helped these students write their recounts by asking them, first, to recall, orally, the events of the weekend; she then closely monitored/supported their writing, which included helping them "[sound] out all the words" (00:17:47 - 00:17:49) and reminders about observing the conventions of print as per the modelled writing session. The students illustrated their recounts.

While supporting the EAL students, Laura gave a student a book called *The Best Tunnel* and directed her to "take this into the reading corner over there, and you are going to quietly read it all to yourself, OK? And then when you come back to me when you're all finished, you're going to tell me as much as you can about it…and then you're going to read it me" (00:20:48 - 00:21:08). She gave another student a book called *Wet Day Popcorn* and directed this student to do the same.

After 30 minutes of writing time, some of the students who had been working independently lined up at Laura's desk to show her their recounts. Gradually, more joined them. One by one, Laura read each student's work and provided feedback: she praised efforts to sequence events chronologically using the adverbs *then, after* and *next,* and made annotations on each student's work in relation to punctuation and spelling. Sometimes, she

directed a student to add an evaluative comment (e.g., 'I enjoyed my weekend') to the end of his/her recount, or to "add a picture on there" (00:39:43 - 00:39:45). After completing their recounts, students moved to independent reading in the Library Corner. Laura listened to the student read *The Best Tunnel.* She also listened to the other student read *Wet Day Popcorn*.

The lesson concluded with Laura reading a chapter of *Pinocchio* to the class.

Appendix G. The coding instrument

Coding of Catherine's Grade 10 English lesson of 21/09/2016

Time (as per video camera timestamp)	Moments of teaching, teacher talk	Dimensions and categories of the current KQ, and emerging categories (darker shades)																														
		Foundation								**Transformation**					**Connection**												**Contingency**						
		Theoretical underpinning of pedagogy	Awareness of purpose	Identifying pupil errors	Overt display of subject knowledge	Use of English terminology	Adherence to textbook	Concentration on procedures	Choice of text	Teacher demonstration	Use of instructional materials	Choice of representations	Choice of examples	Use of instructional procedures	Making connections between procedures	Making connections between concepts	Anticipation of complexity	Recognition of conceptual appropriateness	Decisions about sequencing	Pedagogical cohesion		Connections within text	External connectivity			Responding to students' ideas	Deviation from lesson agenda	Teacher insight	Responding to the (un)availability of tools and resources				
																				Macro-level scaffolding	Micro-level scaffolding		Text-to-self connection	Text-to-world connection	Text-to-text connection							
Part 1 of Lesson: Literal-level Comprehension																																
00:02:50 - 00:03:18	**Concludes individual silent reading time, introduces focus/purpose** Explains: "OK, if you could please put your books down. … This lesson will involve a lot of direct teaching as in me talking to you so I'm expecting that you are listening and you're not interrupting when that's happening and you're fully focused."																															
00:03:18 - 00:04:05	**Provides feedback, links to upcoming assessment (examination)** Explains: "Before I start there's just some feedback from last lesson. I was really impressed – actually the last two lessons – how you've worked on this style analysis. You've done a really good job, you've taken it pretty seriously, you've worked together and you've asked for help when you've needed it. … We have this lesson and a couple more lessons next term on that so when you do see a poem or something in the exam you will be really prepared for that."		✓ Low-level: indicates general focus of lesson (i.e. continuation of style analysis work)																													

00:04:05 - 00:07.33	**Reminds students of study expectations for upcoming examination and connects to prior learning** Explains: “Now just while we’re on exams, just a reminder of where you should be at with your preparation for your exams. So, as you can see here…we’ve been through a lot of this, you’ve done quite a bit of revision on the novels, you’ve only just wrote the essay, you’ve had your feedback back from the essay…but what you should be doing over the holidays to prepare for your exams is…rereading your *Tom Brenan* and your *Looking for Alibrandi* essay…and I would like you…to practise writing a narrative…the things, remember, that you really want to focus on when you’re writing your narrative is your descriptive language, setting up the character and setting up the scene. … The other things are going over your essays. I’m pretty sure you’ve also written a persuasive writing essay on the legal drinking age, is that correct? Yes. I would like you to reread that as well, please.”																																		
00.07:33 - 00:07:44	**Connects to prior learning** Directs: “OK, I would like you now, please, to get out your worksheets that we did last lesson; that is, the A3 page of *The Killer* and your SPECS and SLIMS framework.”								✓ *The Killer* by Judith Wright		✓ STUDENTS have been provided with a SPECS and SLIMS template to complete										✓ Low-level: connecting instructional materials (copy of poem and SPECS and SLIMS template) from previous lesson to current lesson										
00:08:12 - 00:09:14	**Connects to and clarifies prior learning** Explains: “OK, before we go back to the SPECS and SLIMS framework today I want to make sure that you really really understand the poem and we’re going to that by using a reading comprehension strategy…creating images. So good readers, when they read, automatically in their heads they have a picture of what’s going on but that doesn’t come naturally for all people, so sometimes it’s hard. And with poetry, because it’s a little bit abstract and it’s not just telling you in full sentence form what’s going on sometimes it can be hard to follow. I myself sometimes struggle with interpreting meaning out of poetry when things aren’t just sort of black and white written. That’s something that is a challenge for me – I enjoy the challenge – but it is something that doesn’t come automatically and probably doesn’t for a lot of you.”		✓ Names the specific purpose of the lesson: creating images (to aid comprehension)		✓ Recognises that literal comprehension of texts, especially poetry, can be difficult; identifies useful comprehension strategy																											

00:09:14 - 00:09:38	**Describes task** Explains: “So what we’re going to do is we are going to do a reading comprehension strategy – so reading comprehension means how to understand text – about that. So what I’m going to do first is I just want you to read to yourself that poem one more time…just to yourself I’d like you to read it, and I’m going to hand out a worksheet.”		✓ Reiterates specific purpose of the lesson: to practise a reading comprehension strategy		✓ Recognises that comprehension develops over multiple readings															✓ Reconnects students to the content of the previous lesson	✓ Prepares students to engage with the content and pedagogy of the current lesson									
00:10:18 - 00:10:32	**Praises students, manages students, connects to upcoming learning** Explains: “Well done to those people that are really focused. If you have finished it wouldn’t hurt to read it again just so you’re really clear because this task that we’re doing next you will need to have a good understanding.”				✓ Recognises that comprehension develops over multiple readings																✓ Suggestion to re-read = provision of scaffold because “you will need to have a good understanding”									
00:11:17 - 00:11:33	**Directs students** Explains: “What I’d like you to do first just while we’re waiting is if there’s any part of that poem that you really sort of thought, ‘Oh, I’m not really sure what’s going on there,’ just sort of maybe put a little line or something on the verse that you really…if there’s something you don’t get. That’s fine if there is.”															✓ “Oh, it was a tricky poem”: Recognises and acknowledges the poem may be difficult to comprehend, that the meaning(s) of words and/or phrases in the poem may be ambiguous														
00:11:46 - 00:12:00	**Directs students** Explains: “OK, so thank you for those people that have read that. I’ll just give you 30 more seconds if there is anything that you’re not 100 per cent sure even if it’s a word that you don’t know what it means, just put a bit of a line.”																														
00:12:10 - 00:13:07	**Directs students, explains task** Explains: “OK, so eyes this way. Although I was really really pleased with how you started to fill that framework out last lesson, I did sort of think, ‘Oh, it was a tricky poem,’ and when I talked to some people…I sort of got the feeling maybe they had missed parts of the poem what it meant. So I thought we would take a bit of a back step and what I thought that we would have a look at is, yeah, just getting really clear in our minds what happens in that poem in each verse. Now, in order to be able to write an analysis – to analyse a poem – obviously you have to understand exactly what is happening in there. … The thing you were all excellent at was finding those similes, finding the alliteration, that was great, but you also need to have that overall sense of the poem and a strong understanding, so that’s what we’re working on today.”		✓ Identifies the specific purpose of the lesson with reference to the challenges experienced by the students in the previous lesson			✓ “finding those similes, finding the alliteration”																									

00:13:07 - 00:14:12	**Explains task, reiterates focus** Explains: “So, you’ve got a sheet in front of you. There’s only six squares, but how many verses or how many sections are in this poem? Seven. Seven lines of four, a quatrain. … So just on the bottom you’ll just have to do an extra one there. So what I’m going to get you to do is I’m going to read you each verse and I’m not going to mark you on your drawing skills but I just want you to do like a little stick drawing or something or it could be just a few key words if you don’t love drawing but I’d prefer you to draw because remember our strategy is about creating images. I want you to do a little drawing about what is in your head at the time when you read that verse, what do you think it’s describing? Remember this poem, one of the main features it uses is imagery through metaphors, similes and descriptive language, so hopefully that helps you.”		✓ Identifies the purpose of the lesson: creating images			✓ “imagery through metaphors, similes and descriptive languag e”																✓ Reminds the students of the range of literary devices used in the poem									
00:14:17 - 00:16:11	**Manages task, directs students** Explains: “So, this’ll be in your top left-hand square. So I will read it to you. I know you can read but it’s good to hear it out loud as well. [Reads first stanza of poem to class.] … So remember it’s describing the day; it’s describing what the birds are doing; and then it’s describing what the person did. So you should have a few different aspects in your little drawing there. [Students complete their drawings.] So, I’ll give you a couple more minutes and then each one will probably get a bit quicker as we do it, but I’ll let you spend a bit more time on this one. If you need to reread it it’s either on the screen or you have it in front of you.”										✓ Storyboard proforma on which students draw their pictures			✓ The ‘quick draw’/storyboarding task is a type of Shared/ Guided Reading procedure								✓ Description of content of first stanza to support students									
00:16:11 - 00:18:12	**Manages task, directs students** Explains: “OK, we’ll move on. If you haven’t quite finished you can catch up as you go. [Reads second stanza of poem to class.] So think about what just happened in the last one…and then think about, you know, how, if it is a person – some people did question that – how would they be sort of sitting or lying or standing and then…what happens, what do they see in the reeds? What do you think their reaction, the person or the other animal, what is their reaction?”																			✓ Provides prompting questions to guide and support students’ thinking and drawing	✓ “So think about what just happened in the last one [stanza]”: prompting the students to understand the poem as a narrative, with events that occur sequentially TEXT FORM	✓ Low-level: prompting questions ask students empathise with the internal world of the narrator-protagonist APPRECIATIVE		✓ “So think about what just happened in the last one [stanza]”: prompting the students to understand the poem as a narrative, with events that occur sequentially TEXT FORM				

↳ 00:17:47 - 00:18:12	***Monitors students*** Circulates classroom; praises and questions students: “That’s great, STUDENT, very good. How you going with it, STUDENT? So, what about this bit, ‘I saw him turn in the reeds.’ Who is he seeing? Oh yeah, where’s the snake? Very impressed, you have much better drawing skills than me.”																														
00:18:13 - 00:20:09	**Manages task, prompts students** Reads third stanza of poem to class, responds to question from a student (‘Is that when she falls over?’): “Could be…or it could be that they’ve fallen over because of how she’s felt the clutch of the earth, but it could just be, you know, feels out with the feet under the ground, she might tense. It’s up to you how you interpret it. She could fall over in shock, that was good thinking. She or he or the animal. So reread just to make sure. How are you going to draw ‘black horror springing from the dark’? How will you draw that? What do you imagine in your head when you hear that? Give you about one more minute. So you’re thinking, just four lines in the poem, there’s quite a lot going on.”											✓ Prompts the student to make a choice of representation: “How are you going to draw [represent] ‘black horror springing from the dark’?”; prompts to the student to consider how text could be re-presented as image										✓ Provides prompting questions to guide and support students’ thinking and drawing		✓ Prompts the students to empathise with the internal and external world of the narrator-protagonist APPRECIATIVE	✓ Prompts the students to apply their knowledge of the world to the text: “How will you draw ‘black horror springing from the dark’? How will you draw that?” INFERENTIAL					
00:20:10 - 00:21:56	**Manages task, prompts students** Reads fourth stanza of poem to class: “OK, I’ll move on. [Reads stanza.] So it’s like someone else has come in and started talking there, isn’t it? It’s not the same person, or it might be what they’re thinking in their head.”																✓ Anticipates the change in focus of the narrator-protagonist’s commentary (from description of setting and events to command and warning) may be confusing for some students						✓ Provides prompting questions to guide and support students’ thinking and drawing									
↳ 00:20:37 - 00:21:56	***Monitors students*** Circulates classroom; praises and questions students: “This would be your specialty, wouldn’t it, doing a bit of stick man drawing? One of your favourites. I like the idea of the speech bubble there, that’s a good idea of what they might be thinking. I think that’s good. Well done, STUDENT. Give you one more minute to finish that one off.”																														

00:21:57 - 00:24:00	**Manages task, prompts students** Reads fifth stanza of poem to class: “OK, so next one.” [Reads stanza.]																												
↳ 00:22:07 - 00:24:00	***Monitors students*** Circulates classroom; praises and questions students: “That’s very good, STUDENT. It’s good, yeah. I like it. I like your expression on their faces, it’s good. It shows really what they’re thinking and feeling. Well done. I have to come and see what these boys have drawn for this verse. STUDENT, that’s good. Don’t know where he got his sword from, but very creative. Good.” To whole class: “Don’t forget how it says about, ‘he lies in his icy glance’. How are you going to draw that?”											✓ Prompts students to consider choice of representation: “How are you going to draw that?”; prompts to the students to consider how text could be re-presented as image										✓ Praises the students’ efforts to empathise with the narrator-protagonist; confirms legitimacy of students’ text-to-self connections APPRECIATIVE							
00:24:01 - 00:26:24	**Manages task, prompts students** Reads sixth stanza of poem to class: “OK, listening. Next, next verse and this is your last one and then you can draw the very last picture on the back or down the bottom. Yeah, we are going to share them. Not with the whole class but you can choose a few people to share them with. OK, so next verse.” [Reads stanza.]																												
↳ 00:24:42 - 00:26:24	***Monitors students*** Circulates classroom; praises and questions students. To whole class: “That’s tricky that one. It’s not sort of a concrete thing, so how are you going to represent it?” [STUDENT: ‘Why does it say, *banished into my mind*?] “Oh, why does it? Tricky, isn’t it? … It sort of means like she or he is not going to really forget it, yeah. So although, you know, the snake’s not always going to just be there dead, is it? But you remember what happened.”															✓ Acknowledges the meaning(s) of words and/or phrases in the poem may be ambiguous and suggests possible interpretation					✓ Provides prompting questions to guide and support students’ thinking and drawing							✓ Recognises the student is struggling to identify the possible meaning of ‘banished into my mind’ and acknowledges the challenge: “Tricky, isn’t it?”	

00:26:25 - 00:27:59	**Manages task, prompts students** Reads seventh stanza of poem to class: “OK, and last one.” [Reads final stanza of poem to class.] “So that’s a really important part of the poem because that is part of the message or the theme. So, that last bit, ‘and the ants come out to the snake and drink at his shallow eye’ – what does that mean? That’s a really important part of the story. So you can just draw that on the bottom or on the back.”																				✓ Highlights the role of the final stanza in relation to the previous six stanzas: “So that’s a really important part of the poem because that is part of the message or the theme. … That’s a really important part of the story” TEXT FORM, ESSENTIAL		✓ Prompts students to connect ‘and the ants come out to the snake and drink at his shallow eye’ to a universal theme ESSENTIAL					
↳ 00:27:02 - 00:27:59	***Monitors students*** Circulates classroom; praises and questions students. To a student: “So what are the ants doing? They’re eating him. ‘Cause it’s dead now. The ants are feeding on the snake.” To another student: “Have you done that last little bit? Where’s your bit with the ants?”																												
Part 2 of Lesson: Essential-level Comprehension																													
00:27:59 - 00:28:56 **Notes:** Fulcrum of the lesson: The transition from LITERAL- to ESSENTIAL-level comprehension of the poem has been poorly managed.	**Questions class** Via questions, attempts to clarify meaning and significance of final stanza: “So why do you think I said that part that last those last few lines are important to the story?” [STUDENT: ‘Because it tells you the snake. I only just found out it was a snake.’] “Oh. … Why do you think it’s important in the story about the ants? Why are the ants mentioned?” [STUDENT: ‘Because they come and eat it.’] “They do, they eat the snake. So it’s sort of talking about, yes? Continues the food chain, circle of life, OK? So, one thing dies, then things feed on that. Goes around. So first of all the snake looked like the killer but in the end someone killed the snake and then the little ants fed on the snake, so that’s an important sort of message around nature, that’s one of the themes.”				○ Appears to lack comprehensive knowledge of the range of possible interpretations of the poem and themes the poem explores															○ Fails to clearly explicate the structure of the poem (orientation, complication, resolution) and link the content of each of those structural elements with possible interpretations of the meaning of the poem TEXT FORM, ESSENTIAL		✓ Prompts students to connect the ants and what they do (“they eat the snake”) with a natural cycle (“circle of life”) ESSENTIAL		○ Fails to recognise that students’ literal comprehension of the poem may still be tenuous (‘I only just found out it was a snake’) and respond appropriately			

↳ 00:29:08 - 00:30:24	***Monitors students*** Circulates classroom; praises and questions students: “OK, so you can, yeah, so you combined those ones. Yep. So, yep, you put your thought bubble in there. Yep, that’s fine. Well done.” To whole class: “OK, one more minute just to share.” To student: “Have you shared yours, STUDENT? Have you shared with STUDENT?”																														
00:30:24 - 00:31.33	**Reiterates purpose of task** Directs, explains: “OK, eyes this way. Hopefully, that helped you to get…to understand in a little bit more detail exactly what happened, because sometimes when we read something we think, ‘Oh, it’s just a short piece,’ we maybe only sort of think about even the start and the finish. So that actually helps you see it is like, you know, a proper story, like a narrative in a way, this poem. Not all poems are like that but this one is. So it actually has, you know, a beginning, middle and an end. The reason…we do that is to help you get that overall theme and message; the purpose, remember?		✓ Reiterates purpose of the drawing task		✓ Aware of the narrative structure of the poem																✓ Turn and talk is a strategy that supports students to consolidate and clarify their learning				✓ Compares structure of poem to structure of narrative: orientation, complication, resolution; generic comparison TEXT FORM				
00:31:34 - 00:32:17	**Class discussion: Directs students** So, looking at that now, just do a bit of a turn and talk – that is, sharing with your table – and we’ve talked about it a little bit with the ants, but what do you think are maybe, sort of, two or three things out of that that Judith Wright the author wanted people to think about? What kind of messages or themes do you think she wanted people to think about in that poem? Or what…was the theme of that poem? What kinds of things was she talking about? Think about the setting, think about the people or the animals in the poem. So there’s some overarching ideas. Nature is one them. There’s a couple more though.”	✓ Provides students with the opportunity to consolidate and clarify their learning by ‘talking out’ their ideas: “just do a bit of a turn and talk – that is, sharing with your table”																							✓ Recovers, somewhat, from poor management of transition at 00:27:59 - 00:28:56			
00:32:51 - 00:33:45	**Class discussion: Questions students** Questions: “OK, so listening, eyes this way. Hands up so we’ve got nature, what else do you think are some overarching ideas in that poem. STUDENT, you’re doing really well today, I’ll just see if there’s anyone else that’s been thinking as well. Death. Yep, good. So death, food chain, nature.” [STUDENT: ‘Do we have to write this down?’] “Yeah yeah it might be a good idea because you have to comment on these. Violence, yes. Anything else? That’s very good. So just think, just in that little piece of writing…there’s a lot of different big ideas.																														

00:33:47 - 00:35:07	**Directs students** What about the setting now? Now that you've actually physically had to…draw that story, how would you describe the setting in the bit more detail? I would like you to write maybe four words…around the setting. So four descriptive words that would describe the setting. … Like think about what do you think the weather was like that day? … What do you think…the person could see around them other than the snake? What could they hear? Think about those five senses. What do you think they could even smell? What kind of smells would you have in that kind of environment? Not a desert because remember there's a creek and it's green and mossy and there's bird life. So I wouldn't say a desert. Where else do you think it could be? Yeah like a waterhole."	✓ As per interview data, acknowledges that, for the purpose of completing the style analysis assignment, students will need to describe the setting, action and mood of the poem; therefore, asks the students to translate pictures into key words		✓ STUDENT suggests the physical setting for the poem is the desert; corrects the student																✓ Addition of words a support for later writing			✓ Prompts the students to connect their own experiences of nature to the setting of the poem APPRECIATIVE					
00:35:18 - 00:38:57	**Extends task** Directs students, questions students: "OK, so the next thing I want you to write…how do you think the person…I want you to write down…in each square I want you to write an emotion or a feeling or a thought that you think…the person is thinking at the time in each part of the scene…you could draw a thought bubble or you could just write a word. So what do you think they're thinking at first before they see the snake? What are thinking at the end? What about in between? What kind of thought is going through their head when they first see that snake, or what feeling? I'd like better words than just 'happy' or 'sad', thanks. See if you can be creative with your language. So you can help each other with this part if you need to…at least six words. Good. I've got some good ones here – nervous, fear, calm. Very good. … If you finish you could maybe add a few more words or bump up your language to make use better descriptive language. You might even do something from the snake's perspective. … What about how the snake saw the person?"																		✓ Addition of words a support for later writing								

00:38:57 - 00:45:23	**Extends task** Directs students: “OK, so one last task with this bit…and then we’ll finish off our SPECS and SLIMS. So, eyes this way. … Now looking at your drawings, you’ve actually all got this spot on. You really have shown that you understood exactly what was happening…in the story and you understood, you know, what kind of emotions and things were going through during that story and that is then how you can now comment in a minute on mood and tone throughout the piece. … The last thing I want you to do…I want you to go through each verse one last time and I want you to circle one or two words in each verse that…really helped you…use your drawing. … How did know to draw…her killing the snake like that. Sort of underline that main part in your drawing. … What were the words that helped you create that image in your mind for each picture? … What helped you create that image? It might have been a metaphor or simile in there that helped you do your drawing. It might have been something like the way they described the colours.”	✓ “It might have been a metaph or or simile in there…”	✓ Addition of words a support for later writing
Part 3 of Lesson: Application			
00:45:23 - 00:49:53	**Reviews prior learning** Explains: “OK…eyes this way. … Hopefully that will help you go into a bit more depth when you start to comment a bit more on your poem. I’m just going to remind you before you finish off your SPECS and SLIMS what exactly is included just by showing a short film. … This is just a reminder, it’s what we went through in the PowerPoint last lesson.” [Shows YouTube clip: youtube.com/watch?v=3cA8vxSr5Rw]	✓ Reminder of purpose: to write a style analysis of the *The Killer* using the SPECS and SLIMS framework ✓ Uses YouTube clip to remind students of purpose and content of each of the elements of the SPECS and SLIMS framework	✓ Pedagogical cohesion across lessons: students review the of purpose and content of each of the elements of the SPECS and SLIMS framework
00:49:53 - 01:05:36	**Facilitates and supports independent learning** Directs students: “OK, eyes this way. What I would like you to do now for the rest of the lesson is finish off your template. Remember, as well as identifying those techniques, you need to say why you think the author has done that. What kind of mood have they created or is it for the purpose of creating an image in the reader’s mind. So have a think about those things as well. … Does everybody understand what they need to do for the rest of the lesson? It’s finishing off that template. Any questions before I help these people?”	✓ Communicates purpose of final part of the lesson	

↳ 00:50:54 - 00:53:10	***Supports independent learning*** Clarifies task expectations with group of three students: “Alright. So, what you need to now comment on about that poem are these things. So the subject matter are who are…the characters in it and where is it set. … The purpose is the theme, those big ideas that we just wrote down. Emotion and mood are…the feelings in the poem, which we’ve talked about. And then this one, craftsmanship, are the techniques. So you’ve already circled…techniques such similes, metaphors, alliteration. So they’re the things that you would talk about there. With the sounds and the movement, that’s like the rhythm if there’s rhyming and things for sounds and movement they can sort of be commented as one thing. So is it fast paced, is it slow paced? It’s a fairly fast paced because it’s quite an action-packed poem. So they’re the kind of things you would comment on there. …” [STUDENT: ‘What’s subject?’] “The subject are the characters in it. … So the snake, the person, the ants and you might even put the setting, so sort of like a bush setting or forest or whatever you think. And then the purpose are the big ideas in it. … For purpose…nature, death. … So purpose also means the theme or the big idea.”																			✓ Activity from the previous lesson (identification of literary devices used in *The Killer*) informs completion of the SPECS and SLIMS template	✓ Previous activity (drawing, adding words to drawings) informs completion of the SPECS and SLIMS template										
↳ 00:53:13 - 00:53:28	***Manages class*** Directs students: “OK, let’s stay focused ‘cause you have done very well…we’ll pack up about five past so you’ve still got good…10 minutes or so, little bit more than that, to try and finish as much of this as you can.”																																
↳ 00:53:33 - 00:54:11	***Supports independent learning*** Directs a student: “Where’s your template? OK, so you’ve got some things there. What else? Like now that you’ve done this, think about adding a few more things here for me, OK? Then you’ve got to think about these things. So we’ve talked about the structure, that’s exactly…how many lines etcetera so you’ll be able to comment on that now. The language, think about what type of words and things. The images – well you’ve done good imagery – so think about how…you’ve achieved that, OK? So I’d like you to at least have some dot points in each of these sections by the end of the lesson, OK?”																			✓ Activity from the previous lesson (identification of literary devices used in *The Killer*) informs completion of the SPECS and SLIMS template	✓ Previous activity (drawing, adding words to drawings) informs completion of the SPECS and SLIMS template										
↳ 00:54:25 - 00:54:29	***Monitors independent learning*** Questions a student: “STUDENT, you’re OK and you’re on track there. Very good.”																																
↳ 00:54:32 - 00:54:37	***Monitors independent learning*** Questions a student: “How are you going over here? Alright?”																																

↳ 00:54:52 - 00:56:42	***Monitors and supports independent learning*** Questions a student: “Alright. So do you know what to do for this part?” [STUDENT: ‘Nope.’] “OK, this is where you’re actually talking about the techniques of the poem. So, the first one is the structure. So how is the poem structured?” [STUDENT: ‘In sentences, I dunno.’] “Yeah, stanzas. How many? Seven. And how many lines in each one?” [STUDENT: ‘Four.’] “Yep. So that’s what you write about structure. Why do think…the writer has structured it like that, what’s your opinion on that?” [STUDENT: ‘So every second line rhymes.’] “Yes, so to keep a beat and rhythm. Yes. What else?” [STUDENT: ‘To keep it short.’] “Yeah…a bit more dramatic that way and things. And also…like a paragraph…it’s like the next scene, isn’t it? Just how we drew it. … So language, you’ll just comment what type of language do they use. Are they full sentences in correct grammar…in this poem? … No. It’s a bit shorter and sharper like you mentioned before, isn’t it? And as we talked about before, there’s also some older style language here, like ‘oh beat’, ‘oh strike’… that’s an old style word. We don’t use that usually any more, do we?”					✓ “Yeah, stanzas. ... Yes, so to keep the beat and rhythm. … Are they full sentences in correct grammar.”															✓ Activity from the previous lesson (identification of literary devices used in *The Killer*) informs completion of the SPECS and SLIMS template	✓ Previous activity (drawing, adding words to drawings) informs completion of the SPECS and SLIMS template									
↳ 00:56:45 - 00:57:22	***Supports independent learning*** Responds to student’s question: [‘Um, is there emotive language, like…is that what it means?’] “Yes, so emotive language is when it’s…pretty strong, creates emotion. … Can you find any emotive language in there?” [STUDENT: ‘Isn’t, like, ‘violence’…’] “Yes, yeah, that’s a very strong word, isn’t it? ‘Icy glance’ even is sort of emotive language, isn’t it? … See if you can find maybe one or two more examples.”																											✓ Confirms students’ thinking						
↳ 00:57:30 - 00:57:34	***Monitors independent learning*** Questions students: “You girls are on track OK? Good.”																																	
↳ 00:57:43 - 00:57:55	***Monitors and supports independent learning*** Directs student: “So, this is the part then when you’re actually looking at the techniques.”																																	

↳ 00:58:45 - 01:00:20	***Monitors and supports independent learning*** Questions a student: “Do you know what to do for this part? What do they mean by sounds? Where’s your template that explains what the SPECS and SLIMS template is? Where’s the information one? Get that out. OK, and what does it say about sounds? Remember you were supposed to circle the important things on there to remind you? So have a look now. Circle what you think you’re looking for for sounds. What are the words on here that explain about what you look for for sounds? Like this one, ‘onomatopoeia’, circle it. What are the other techniques that are written in here? … So can you find any of these kind of is there any onomatopoeia in there do you think? … Is there any alliteration? … So just have a look through there and then make some specific examples, OK?”					✓ “is there any onomatopoeia...? … Is there any alliteration?”														✓ Activity from the previous lesson (identification of literary devices used in *The Killer*) informs completion of the SPECS and SLIMS template	✓ Previous activity (drawing, adding words to drawings) informs completion of the SPECS and SLIMS template								
↳ 01:00:29 - 01:00:49	***Monitors and supports independent learning*** To student, clarifies task expectation: “Yep, so I want you to actually say, like, put the example of the metaphor, and there’s similes as well. Like, ‘The day was clear as fire,’ for example, is a simile.”					✓ “metaphor…similes as well”														✓ Activity from the previous lesson (identification of literary devices used in *The Killer*) informs completion of the SPECS and SLIMS template	✓ Previous activity (drawing, adding words to drawings) informs completion of the SPECS and SLIMS template								
↳ 01:00:54 - 01:01:17	***Monitors and supports independent learning*** Responds to a student’s question: “So how would you with the summary, it’s...about…your opinion of the poem. So do you think that it’s an effective poem? Do you think that the reader does create images so people can picture it? Does it give…a strong message across? Did you personally enjoy the poem? Just a few notes like that to sum it up.”																									✓ Low-level: Confirms students’ thinking			

↳ 01:02:10 - 01:03:24	***Monitors and supports independent learning*** Questions three students: “How are we going here? Are we up to this bit? … Structure. So have a look at the poem. Get it out. … So, again, how many verses or stanzas are there?” [STUDENTS: ‘Seven.’] “Seven. So that’s part of the structure. And how many lines in there? … In each verse?” [STUDENT: ‘Four.’] “Yeah, so that’s the first thing you can write: so, seven verses or stanzas and four lines in each. … Now, why…has she chosen to structure the poem like that, rather than write it as a story or?” [STUDENT: ‘It’s short, sharp.’] … “Yeah, so it’s simplified, it’s short and sharp, it’s more dramatic. Yeah. So they’re the kind of things you want to write. … Why’s she chosen to write it in that way?”					✓ “verses or stanzas”														✓ Activity from the previous lesson (discussion of structure of *The Killer*) informs completion of the SPECS and SLIMS template						✓ Low-level: Confirms students’ thinking			
↳ 01:03:38 - 01:04:17	***Monitors and supports independent learning*** Questions a student: “Um, are you up to the next part now? So imagery are the techniques such as adjectives and similes and metaphors. So, I think you’ve circled a few similes and metaphors so put some of them as example…what kind of effect does that have? Mainly it’s about it creates the image in the reader’s mind; they can compare it to things. … It’s quite dramatic, like how they’re saying ‘as fire’ like it’s a really hot day, it’s clear. So they’re emphasising things.”					✓ “adjectives and similes and metaphors”														✓ Activity from the previous lesson (identification of literary devices used in *The Killer*) informs completion of the SPECS and SLIMS template	✓ Previous activity (drawing, adding words to drawings) informs completion of the SPECS and SLIMS template								
↳ 01:04:42 - 01:04:49	***Monitors and supports independent learning*** Directs student: “So I want you to actually write what words they used in those. Do you know which ones they are or do you need help? OK, good.”																																
↳ 01:05:09 - 01:05:36	***Monitors and supports independent learning*** Responds to a student’s question: [STUDENT: ‘In language…?’] “What style is the language? Is it full sentences? Is it all grammatically correct? Or is it a little bit different to that? What kind of language do they use? Are they using language like you would use in persuasive writing or an…English essay? So there is technical vocabulary in it and specific…language. Yeah so descriptive language, well done.”																												✓ Low-level: Confirms students’ thinking			
01:06:02 - 01:07:59	**Concludes lesson** Directs student to pack up and flags the focus of the next lesson: “Next lesson we will just look at how you structure that in essay form…it will be really easy for you now that you understand what you have to comment on because you just do it in that exact order. … That final level that we go to next lesson with that.”		✓ Flags purpose of next lesson																	✓ Connects content of current lesson to next lesson												

Frequency count	2	9	1	4 act 1 opp	8	0	0	1	0	3	2	0	1	0	0	3	0	0	11	18 PoN 1 TL	2 act 1 opp	3	4	2	5 act 1 opp	0	1	0

Appendix H. Observation protocol

Lesson Observation Record		Date:	Time: _____ to _____
Teacher:	School:	Grade:	No. of students:
Map of classroom:			

Video camera timestamp	Description of teacher practice	KQ-E dimension/category

Video camera timestamp	Description of teacher practice	KQ-E dimension/category

Appendix I. Post-lesson interview schedule

Post-lesson interview schedule

Thank you for letting me observe and video-record your lesson. So that I can accurately capture the intentions of the lesson and your teaching practices, I'd like to ask you a few questions:

1. What were the specific intentions of your lesson? Why is that learning important for students?

2. I noticed that you structured the lesson as follows [describe the structure of the lesson]. What thinking informed your decisions in term of the lesson structure?

3. To support student understanding of [name idea, issue, topic, process], you used [name example] as an example? Why did you choose that example? What thinking informed your decision?

4. I noticed you made connections [to bodies of content within the lesson, to content from other lessons, to students' experiences within and outside school, etc.]. Tell me about your thinking in terms of making those connections.

5. I noticed that you [chose / chose not] to pursue the opportunity for some unanticipated teaching and learning when a student [said, asked…]. Why?

6. Thank you for taking the time so share your lesson and thinking with me. Before we conclude, is there anything else you'd like to say?

Appendix J. Final, follow-up interview schedule

Final interview schedule

1. Please tell me the story of your teaching career: How long have you been teaching? In what places, contexts and sectors have you taught? When and where did you complete your teacher training?

2. Now I'd like you to tell me about your work as an English teacher, starting with your ideas and beliefs about English. What is English and what's its purpose?

3. There are different models or "ways of doing" English: the Skills or Adult Needs model; the Cultural Heritage model; the Personal Growth model; the Cultural Analysis model; and the Cross-Curriculum model. What can you tell me about each of these models of English?

4. To which of these models do you subscribe?

5. Why do you subscribe to the [name model(s) from prompt 4] model(s) of teaching English?

6. I've taken a look at the video-recordings of your lessons and have some questions about your thinking and practice:

    - The overarching purpose of the teaching-learning sequence was [describe purpose]. Why was that learning important for the students?
    - When you started the teaching-learning sequence, you [describe practice]. Why?
    - I noticed that you devoted a lot of time to [name content and/or practice(s)]? Why was that?
    - How will the learning that students have done in this teaching-learning sequence be connected to learning they do later?
    - During one lesson, a student asked/said [repeat student's statement or question]. What do you think of that?

7. We've talked in great depth today, and I thank you for taking the time so share your ideas and experiences with me. Before we conclude, is there anything else you'd like to say?

Appendix K. Sample interview transcript

(Job 45119) Catherine 21 September 2016
(I: Interviewer P: Participant)

I: Okay, well like I just said I thought that was an outstanding lesson actually. And we'll sort of talk about yeah, some of the features of the lesson which I thought were particularly effective shortly, but I just wanted to start – I didn't get a chance to ask you this previously but why did you decide to choose *The Killer* as the poem to analyse?

P: Okay, so when I had a look through the textbooks and things, I wanted to choose something that had a story that was fairly clear for students. Something that I thought as their first one wasn't too abstract, but still had quite a lot of you know, stylistic devices in it, and still had a little bit of abstract but not completely. So I wanted something that they could actually picture the story, I guess, was one of the aims for that.

And I liked the way that poem changed, but I felt like you had to read it a few times so then you got more and more. When I read it that happened, so I thought oh that would be quite a good one for them to access. Plus, it was fairly short and sharp, as well.

I: Yeah, so a nice balance of concrete and abstract, and yeah a nice number and variety of stylistic devices that the authors used as well.

P: So I guess when I first read it a few times, I thought yes, this has similes, it has personification in it. It has automatic [0:01:43.3], it has rhyme, it has a clear structure, and so that first drew me to it but then when I read it a few times I liked the story as well.

I: You can really…there's a lot of scope there for students to really go to town with their interpretation of it. Yeah, I find that, like I've read it a number of times now, sort of as the kids have been working I've read over it and yeah, I find it's like you say, it touches on that theme of nature. I think for me fear and sort of that primal response to danger is a strong theme through it as well. And the kids have lots of great suggestions in terms of yeah, the various themes that the poem addresses. It's a really good choice. Getting back to the idea of having a clear sort of story structure or narrative structure, beginning, middle and end, and it's something, there's some you know, concrete imagery that kids can get their head around – you obviously decided that today you wanted to go back to exploring that in some more depth. So what prompted that decision?

P: Okay, well I guess I did the *SPECS and SLIMS* lesson with both classes. So I'd had sort of that idea, and it was good, it's really good to have two classes. And they're actually at quite different levels, those classes, in a way. To sort of see how they went with that, and I felt yes, they've got the concept of *SPECS and SLIMS* but what they were actually struggling with was the purpose of the poem. Both classes were struggling with that. How to sum things up, so what were their thoughts at the end,

what was their opinion – they were two things that they struggled, and also yep they're really good now at identifying all those devices, but explaining a bit more why they've been used, and in that poem there is a lot of imagery.

So, they were struggling with that part of it and I thought if they're going to write an essay on this poem maybe, or even another one, they need to understand that it's not just about picking out those devices but they have to have a clear understanding of the story. And I felt that both classes, they understood a bit, but some of them were saying things like they still thought that the snake was the main killer.

I: Yeah right, yeah.

P: And there were a couple of… oh, there's a person in it and there were a few comments like that from both classes. Even though both classes have worked really well on it, then I thought oh maybe we should go back. And that's what I thought, what can I do, and I thought well I haven't done anything like that this year yet around that creating images. And I thought that really fitted.

I: It fitted beautifully, I thought that was yeah…I don't think there would've been a better way to do that, to be honest. I thought that was really masterful teaching, I thought.

P: Thank you.

I: And do you think it was better – if you were doing this again, would you do that before you went through?

P: Yes.

I: You would, yeah right. I was just sort of weighing that up in my mind just then, whether sort of, whether it would matter whether you would have to do that before or whether it was better to read the poem.

P: I probably would read the poem first, but I'd maybe still get them to identify some devices but I think yeah, I think I would probably do it a little bit earlier. As I said, it came about because I thought, I just don't think they've quite understood all of the poem.

I: Yeah, and those devices that you talk about, like they only make sense within the setting and the action of the poem. So I think yeah, getting kids to understand that this is just like a story, and there's a really concrete kind of context and action, and there's these two characters or participants – the snake, and then the poet, and that was very, very clever. And I love the way also that you ask the students to go back over their pictures, and to add to each picture one word that would describe the emotional or the mood or the tone of that particular moment in the piece.

And then also to go back and look at each stanza and say okay, what were the couple of words in that stanza that allowed you to create you know, that helped you to actually create that picture that you put on your paper. Which were the really sort of telling or significant words there – I thought that was very clever, getting kids just to,

that was a really good way to scaffold that. Knowing that they're going to have to write about the imagery, the author's use of language, and also comment on the emotional tenor of the poem as well, I thought that was a really clever way to give them, to scaffold that you know, knowing that they're going to have to write about this. Well let's get some words down on the page, and they can form the basis of you know, those paragraphs in there, their analysis. I thought that was very clever. And the kids loved it, like they were right into it, yeah.

P: In this class, and that was not the reason, but what you just said about the words – although I sort of thought about this lesson this morning. I was thinking about it a lot yesterday, but it just wasn't coming together for me. I thought, I don't feel that they have enough language. They have the device, the stylistic language that's you know, technical language, but I don't feel they have enough language.

When I read the example of [0:07:52.3] and some of the vocabulary he used, I thought how am I going to get them to be able to use their own descriptive language to describe what's going on in the poem, or mood and atmosphere. So that was sort of what I'd been thinking, and I do have a sheet that I haven't given them yet, around some words that they could use around mood and tone. And I was going to get them at first to do a vocab activity around that, but then I sort of thought no, that's them when I changed doing this as a visual, and then getting them to add their word. The next step would then be to go okay, you wrote angry, alright let's see if we can find some other words for angry.

I: I notice you actually used the phrase 'bump it up', bump up your vocabulary so yeah.

P: So that would be the next step, because I feel that they don't have enough language. They just rest on using the same words all the time. So that's a focus that I want to move them to eventually, but I guess the other reason why I thought yes, in this class especially images, there are some students in here that are you know, their literacy level, it's not that high.

Students like STUDENT and STUDENT, and even STUDENT sometimes struggles with concepts, and STUDENT is very good with his language but again sometimes abstract so there are a few students in this class that are on the autism spectrum, for example. And sometimes they can struggle with that abstract, those abstract ideas. So that was one of the reasons why I wanted them to draw the pictures, so that they had a visual thing, and it was accessible I felt to everyone.

I: Absolutely, yeah.

P: To do that, and it did work for students like STUDENT and STUDENT, because they all had something down and they wanted to share their pictures.

I: Yeah I noticed that STUDENT was struggling with that, I think it's about the second last stanza, when it talks about the snake staying or entering the poet's mind. And yeah, she was almost – initially it took her awhile to sort of come to terms with what that might mean. And cos initially she was talking in very concrete terms, like the snake literally went into the poet's head.

P: And STUDENT is very like that, and she was one of the people I had in mind, when I did this activity because she does see things in very black and white. And I knew she would struggle with this, and that's why I didn't want to tell her that directly. I wanted her to think, try and get it, with prompting. And she did in the end, but yeah, if she had've just read that by herself you know, no way she would've understood. But I could see when she was really getting into it as well, and thinking about it.

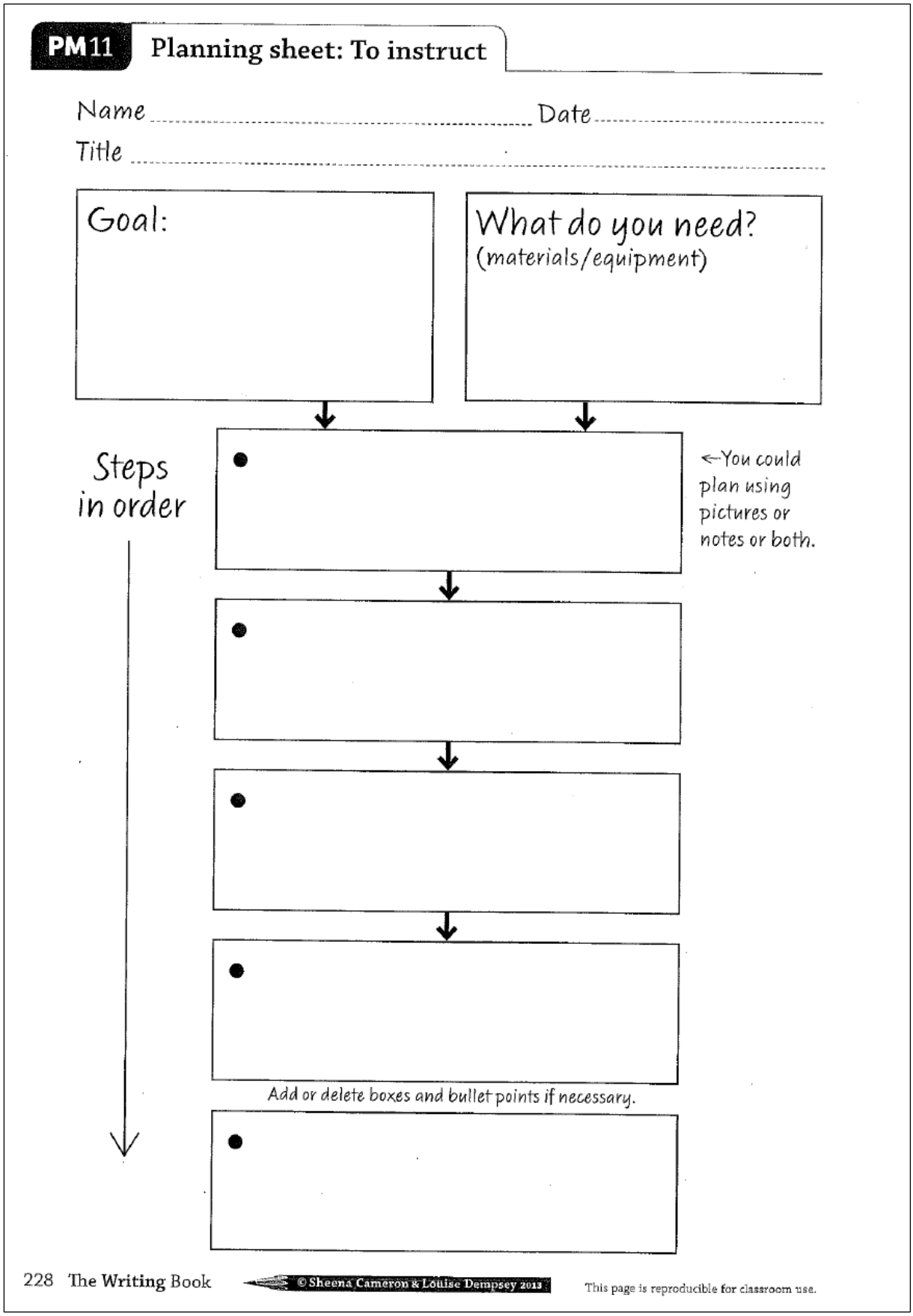
I: Yes, yeah. That's really, cos what you're talking about there is you know, obviously your pedagogy is informed by – cos in our previous, when we had a conversation previously, we talked about how you know, your pedagogy and your scaffolding is informed by your knowledge of the cognitive demands you're placing on students. But you're talking today about how important it is to know your students as learners. And how that has been you know, really very significantly informed the way that you conducted the lesson today. And also, those constructivist notions of learning as well, like with Louise, with some prompting. She's come to those realisations herself, which is far more powerful than just being told, like you say. Yeah, it's complex isn't it, teaching.

P: It is complex. There are some kids in this class that just really struggle with English, and with literacy skills in general, that I wanted to try and make it accessible so that everybody can have that challenge, you know, but they can do it at their own sort of pace in a way.

I: Yeah that's right. I suppose today's lesson also then was a good example of differentiation, yeah. A really good example. No I really enjoyed it, and I learnt a lot as well myself.

[End of recording]

Appendix L. The writing frame that Grace used, from Cameron and Dempsey (2013, p. 228)



Appendix M. Comprehension questions: *Miracle in the Jungle*

Miracle in the Jungle

Focus Questions:

1. What kind of preparation and planning would you make if you were in Hayden's situation?
2. What role should the managers at Adcock's Guesthouse have played before he departed on his trek?
3. Write a description of Ban Khoun Kham (the village where Hayden was staying before he left for Namsanam).
4. How does the jungle itself create a dangerous risk to Hayden's physical health?
5. What are pathogens and what effect do they have on your body? Use a diagram/illustration if you want to.
6. What medical treatment and rehabilitation would Hayden require in his state?
7. Why does Hayden, at first, contemplate suicide in the jungle but then feel determined to live?
8. How does luck and good fortune play a role in Hayden surviving his ordeal?
9. Explain Hayden's attitude and approach to life after he has regained his health. How has he changed?
10. What is the importance of his return to Laos to thank the villagers?
11. Add Hayden Adcock to your Survivor Data Base.

Extension Activity:

- Draw a map of South East Asia. Indicate on your map Laos, Cambodia, Vietnam, Thailand and Burma and the Mekong River; also include the oceans nearby such as the Golf of Thailand. Use colour for the different areas; also indicate the capital cities of each of the countries. When looking at the map see if you can notice the main geographical difference between Laos and the other countries in this region. What problems might this cause for the people of Laos and tourists?

Appendix N. Comprehension questions: *Miracle in the Storm*

Miracle in the Storm

1. We are informed that Ewa Wisnierska entered the 'death zone'. What is the death zone, where is it and what happens to the human body when you enter it?

2. Explain the meaning of hibernation.

3. How did falling into a state of hibernation help to save Ewa's life?

4. What enabled her to come out of hibernation?

5. Explain how Ewa's thoughts about her parents after she regained consciousness while still hanging in the sky help her to survive.

6. Why do you think Ewa takes to the sky within days of surviving her experience?

7. Describe the reaction of her fellow competitors at Mt Borah.

8. Ewa says, 'I was lucky'. Explain how luck saved Ewa.

9. How was teamwork, individual and group responsibilities and support important in Ewa's story? For example, what are the responsibilities of the paraglider team leaders, such as those shown by Stefan Mast, the German team leader?

10. What are your own experiences of teamwork? Write a personal account of where teamwork – your involvement as a member of a team – has either succeeded or failed.

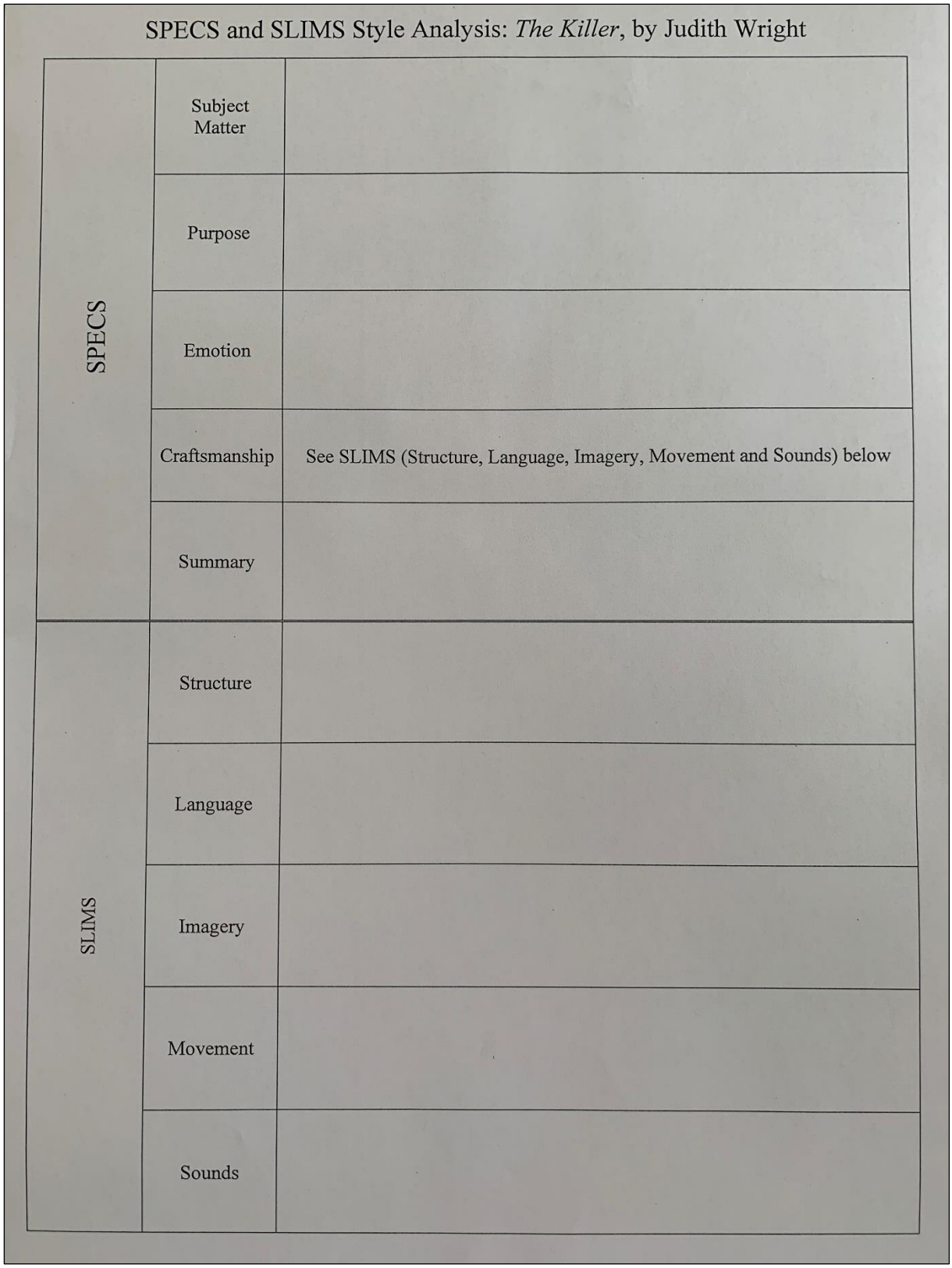
    It does not have to be teamwork confined only to a sporting context. For example, it may be teamwork in producing a play or a student newspaper.

Extension tasks

Research and construct a poster display illustrating and explaining the range of equipment and clothing that a paragliding pilot needs, as well as other tools and communication facilities such as computers, radios, phones and GPS units. Alternatively construct a poster display on another high-risk activity of your choice. Estimate the financial cost all of this material might add up to if you were to take up this activity

What are the climatic and atmospheric conditions that cause a thunderstorm? From the program and further research, create your own illustrated poster, including text, showing the stages of how a thunderstorm develops and what happens during a thunderstorm – such as lightning, thunder, hail, rain and wind.

Appendix O. A3-size *SPECS and SLIMS* note-taking sheet



SPECS and SLIMS Style Analysis: *The Killer*, by Judith Wright

SPECS	Subject Matter	
	Purpose	
	Emotion	
	Craftsmanship	See SLIMS (Structure, Language, Imagery, Movement and Sounds) below
	Summary	
SLIMS	Structure	
	Language	
	Imagery	
	Movement	
	Sounds	

Appendix P. *The Killer*, by Judith Wright

The killer

The day was clear as fire,
the birds sang frail as glass,
when thirsty I came to the creek
and fell by its side in the grass.

My breast on the bright moss
and shower-embroidered weeds,
my lips to the live water
I saw him turn in the reeds.

Black horror sprang from the dark
in a violent birth,
and through its cloth of grass
I felt the clutch of earth.

O beat him into the ground.
O strike him till he dies—
or else your life itself
drains through those colourless eyes.

I struck again and again.
Slender in black and red
he lies, and his icy glance
turns outward, clear and dead.

But nimble my enemy
as water is, or wind.
He has slipped from his death aside
and vanished into my mind.

He has vanished whence he came,
my nimble enemy;
and the ants come out to the snake
and drink at his shallow eye.

Judith Wright

Appendix Q. The *SPECS and SLIMS* poetry analysis framework

Style Analysis – SPECS and SLIMS

Subject Matter	What event, situation or experience does the author describe or record?
Purpose	What is the author's purpose in writing this? What theme is explored? What message does s/he want to communicate? What is the tone* of the piece? Is it a parody? Satirical? Sincere?
Emotion	What is the predominant emotion or feeling of the piece? What is the mood**? Does the mood shift or change during the piece? What emotions does the author seek to evoke in the reader?
Craftsmanship	What specific literary techniques have been used by the writer? See SLIMS below.
Summary	After analysing the piece, synthesise (pull together) into a summary. What is the overall impact of the piece? How successfully does the writer achieve his/her purpose?

A closer look at craftsmanship – SLIMS

Structure	How is the piece structured? If it's a poem, does it have a conventional structure, such as a sonnet or a ballad? Is it set out in stanzas? Are the stanzas of equal length? Is there a chorus? Is it free verse? Are there any interesting or unusual design features?
Language	How would you describe the author's use of words – vivid and effective or bland and predictable? Is the language appropriate for the subject matter?
Imagery	Are there any striking examples of simile, metaphor, personification, hyperbole, oxymoron or symbolism? What is their effect?
Movement	If it's a poem, does it have a regular (fast or slow) rhythm? What is the effect of any rhythmic quality?
Sounds	Does the piece have any significant sound features? Does the author use onomatopoeia, alliteration or assonance? If it's a poem, does it rhyme? What are the effects of these sound features on the piece?

*tone – writer's attitude toward the subject matter
**mood – atmosphere created within the piece

The "golden rule" of effective style analysis:
identify – exemplify – explain